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Passenger train eastbound approaching siding at "C". Operator switches westbound freight into siding at B. Freight drifts down the siding and is passed by main line passenger without either train stopping.

Traffic Control - *Centralized*



"It is believed the speed requirements of today will force the consideration of centralized traffic control in territories where the density of traffic (and retarded movement by use of train orders) justifies the expenditure, and provide for operation by signal indication in other territories by placing signals and switches under the control of operators. It is recognized that the initial investment for such improvements may be large, but in many cases compensating savings make practicable this modernizing step toward meeting service demands. It seems to your committee that these items offer important means by which the performance of road trains can be improved, particularly in single track territory."*

You should know about all the benefits and advantages of "Union" C. T. C. Shall we describe them?

*Subject Committee No. 4 A. A. R. S.

UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

Mr. Horner Tries a Couple of Miracles

Most of the propaganda disseminated during the automobile shows in the large cities is straightforward salesmanship by an industry which produces a splendid product at an attractive price; and the public gets as much pleasure out of the good-natured Hollywood-type of ballyhoo as the cheerful, well-fed fellows who dish it out. And the week of celebration brings out the buyers, who make the wheels of industry hum and put men to work all over the continent.

But there is usually more to Automobile Week than good-natured tubthumping for the new passenger car models. Go to one hotel, and you'll find a scientific discussion of highway safety problems in progress. Step into another, and you'll stumble on a group of push-over professors being harangued by some petroleum lobbyist on the immorality of gasoline "tax diversion." Wander into another, and you'll probably discover a crowd of road contractors demanding that the government build a lot of super-highways at the expense of the general taxpayers for "national defense." An extraordinarily patriotic lot of fellows, these highway contractors—surpassed only by the War Department, which canalizes such mud sloughs as the Missouri river for "national defense." Well, anyhow, the money they get is clean, as the chimney sweep said.

The Campaign for Super-Highways

This year at almost any of these meetings you would also have found some official of the United States Bureau of Public Roads making a sales talk for the famous bull issued a few months ago by that Bureau entitled, "Toll Roads and Free Roads." And there has just come to hand the text of a speech delivered before a meeting of engineers in New York by one of the country's best-known automotive officials, F. C. Horner, which likewise is a sales appeal for the Bureau's bull, "Toll Roads and Free Roads."

Now, it so happens that Mr. Horner is a member of the "steering committee" of the National Highway Users' Conference—the arch-propaganda and lobbying colossus of all the interests which wish to see highway transportation paid for as largely as possible out of general taxes and as little as possible by users of the highways. Therefore, Mr. Horner's whole-hearted plumping for the report on "Toll Roads and Free

Roads" can mean only one thing, namely, that the full force of the propaganda machine of the truck manufacturers and their henchmen is to be thrown into the fight to sell to the American people this notorious report of the Bureau of Public Roads.

Working a Miracle for Highway Transportation

The miracle which the "Toll Roads and Free Roads" document attempts to perform is that of taking highway transportation out of the class of *economic services* (such as food or housing, which are paid for in full by the consumers), and placing it in the category of *public education and police protection*—and consequently to be provided regardless of whether the people want it or not, and by making them pay for it by taxation and by subterfuge. Of course, highway transportation is already to a large degree in this class of tax-paid services, but only because of the customary lag of legislative remedies behind the evils they set out to correct. But the Bureau of Roads is seeking to induce *formal* recognition of the favored status of highway transportation at the expense of all other economic services, to make this favored status *permanent*, and to increase it by launching a huge program of "super-highway" construction.

Briefly, the "Toll Roads and Free Roads" report reaches the conclusion that no system of *toll-bearing* super-highways should be built because, it says, the highway users do not want such super-highways badly enough to be willing to pay sufficient tolls to cover their investment and maintenance costs. If it were railroads, or factories, or clothing, or any other economic service excepting sacred highways, the finding that the people using them did not want more of them enough to pay their cost would end the matter. But, according to the Bureau, highways should not be included in the sordid class of economic goods. Therefore, it urges that a system of 27,000 miles of inter-regional super-highways be built to "*join the populous cities of the United States, almost without exception*"—at the cost of the general taxpayers and landowners, as hereafter shown.

These super-highways (without intersections and with grades and curves reduced to a minimum) would be carried right into the very heart of all cities. With

such roads a truck driver would be able to load at any shipper's door in the middle of any city in the country and proceed without stops or even slowdowns to the door of a consignee hundreds of miles away. And the truck operator would get this billion-dollar service without paying a single, solitary cent more than he pays now. Indeed, the Bureau of Roads recommends that the federal government increase the proportion it customarily contributes toward highway construction "in view of the predominant national importance" of the proposed super-highway system.

Moreover, the Bureau of Roads has a further infinitely clever scheme for saddling more of the expense of highways on others than the users—the "excess condemnation" plan. Under this neat scheme the government would condemn all the land in the neighborhood of a proposed new highway. After the highway was built, the government would proceed to sell off the land at a profit—perhaps to its former owners—using this profit to help pay for the highway, thus further relieving the users of the "burden" of paying for what they get. Of course, the government is notoriously such a good business man that it never occurs to the Bureau—which is a part of the government—that the government might not make a profit.

But Why This Collusion Between Big Business and Government?

Mr. Horner fervently endorses all this grandiose and sly scheming of the Bureau of Roads as an "epochal contribution"—and he is right. It will be "epochal" to the point of being miraculous if he and his cohorts get away with it without having every other industry in the country clamoring for, and getting, similar favors. For if "free roads" are to be elevated to the class of "free schools," as Mr. Horner advocates—then why not "free railroads," "free coal," "free houses," "free clothing," and "free food"? Mr. Horner is the Dr. Townsend of Big Business—in fact, his plan is not a whit less ridiculous economically than the California "ham-and-eggs" plan for putting all the old folks on the dole; and it is much less defensible, because some of the old folks need the ham and eggs while the interests Mr. Horner befriends are certainly not in the poorhouse class.

But Mr. Horner is not crazy. He knows what he is doing. He is a highly competent representative of certain Big Business interests—interests which loudly oppose all socialistic policies and most big government expenditures that don't directly benefit them. He propagandizes the best he can for his own business interests—and Mr. Horner's best is very good, indeed. But what are we to say of a spokesman of Big Business advocating such a plan? And what are we to think of a public body supported by the taxpayers ballyhooing views on this important economic question which *exactly parallel those of so competent and complete a special pleader for Big Business as Mr.*

Horner? Senator Wheeler, in the debate on the pending transportation bill (S.2009), in speaking of the Maritime Commission (*Railway Age*, June 3, page 949), outlined the dangers to the public interest which arise when a government body having relations with a private business conceives its job as primarily to advance the interest of that private business rather than to deal with it impartially in the public interest. **Big Business men all over the country are scandalized and furious because the National Labor Relations Board frankly shows partisanship for organized labor. Is such partisanship any more scandalous than the even more forthright partisanship of the Bureau of Public Roads for the motor manufacturing, road building and petroleum interests?**

They Do It This Way in Russia

The implications of the "Toll Roads and Free Roads" report are socialistic and revolutionary, as anyone will quickly become aware who will ponder the facts it states, the views it expresses and the recommendations it makes. There is one test, and only one test, of the *economic* value of anything—viz., whether enough people are willing and able to pay the total cost—including a fair profit—of providing it. But the Bureau of Public Roads—backed by Mr. Horner of Big Business—rejects that test for highways. There are not enough users who want improved highways with sufficient earnestness to be willing to pay enough for their use to cover their cost, the report concludes. Nothing daunted, however, the Bureau of Public Roads—backed by Mr. Horner of Big Business—says, in effect, **"We know better what economic services the American people should have than they do. The poor sims may think they want more clothes, new houses, better movies, and might spend their money for such things and neglect the highways. But we won't let them. We'll build the super-highways they ought to have, and pay for them by taxing the people and condemning their property which we will sell back to them at higher prices and at a profit to the government"**—which, of course, differs little from confiscating it.

All this bears a strong resemblance to the way people, goods and services are handled by the government in Soviet Russia. The people are denied the food and clothing they want and would gladly buy because Dictator Stalin has decreed a "five-year plan" under which all the money he can lay his hands on must go into plants and machinery. Stalin knows better what the Russian people need than they do. Similarly, the Bureau of Public Roads has set itself up to tell the American people that, by golly, they are going to have super-highways into the heart of every city whether they want them or not; and, since the users of these highways will not pay for them, the taxpayers and landowners must be forced to do so. And Mr. Horner of Big Business says, "Amen!",—while spokesmen of Big Business continue to tear their hair about socialistic

New Deal schemes for increasing "government investment" and undermining private enterprise.

Why Not "Free" Highways—and "Free" Everything?

Of course, if all this money is to be taken from the people and spent on super-highways—to increase the business of highway builders, oil companies and auto-

motive manufacturers—they will have just that much less, other things being equal, with which to buy clothing, build houses and make other expenditures that would increase the business of the rest of the country's industries. But all history shows other things will not be equal—that special favors do not stay special favors long. If the highway builders, petroleum producers and truck manufacturers succeed in making their

What Will the Traffic Bear?—39

No fine-spun theories about rates will be found in this piece. We have no hypothetical thesis to present—but a specific practical problem which means dollars and cents to the railroads and to the American public. The case is one of trucks going out after traffic to which they are not economically entitled—and which a cost basis for competitive rates would keep them from getting.

Central States Motor Freight Bureau amendment to its Twenty-first petition in Ex Parte M.C.21 proposes a 25-cent rate, minimum weight 20,000 lb.,

so that the rates would preserve to the public the "inherent economies" of the more economical service—

If truck rates were based upon average truck costs, according to I. C. C. statistics for 1938, the truck rate could not be lower than 35.5 cents. The approximate average rail costs, also based upon I. C. C. statistics, are only 20 cents for 20,000-lb. loadings, 14 cents for 30,000-lb. loadings and 10 cents for 50,000-lb. loadings.

It is plainly a waste of the people's substance and a depresser of the national income for rates to be established which force business to move by relatively extravagant methods. Any system of regulation which would permit the continuance of such rate-making would stand convicted of failure to fulfill its primary function. It is unwarranted pessimism to doubt that the I. C. C. could be brought quickly to recognize such simple facts, if they were presented with vigor and persistence.

The costs given do not include any profit and are not intended to measure the *maximum* rates that should be paid for either rail or truck service. They are intended only roughly to measure the *minimum* charge that should be permitted to either agency in their effort to take traffic from each other. We may assume also that each rate should bear some measure of profit in order not to place the entire burden of earning a return for capital on non-competitive traffic. So let us add, say, 10 per cent to the costs of both rail and truck. The minimum truck charge would then become 39 cents, while the rail minimum charges would become 22 cents, 15.4 and 11 cents, respectively (depending on the minimum load).

These cost figures show that the railroads would not have to go nearly as low as their actual costs (or even cost-plus-profit) in order effectively to meet truck competition and reclaim the traffic which—if the safeguarding of the public interest means anything to the regulatory authorities—is rightfully theirs.

The above is not theory. It is fact—and pretty depressing fact at that when it is multiplied by the thousands of other cases where the present rate set-up is gypping the railroads out of tonnage and the public out of economical transportation.

The people who contend that the problem of meeting truck competition is a "practical" one are dead right. So far though the theory (especially the anti-cost-finding theory) seems to be winner over all efforts to deal with this practical problem in a common-sense practical manner.

PUZZLE: Which of These Two Men Is the Theorist and Which Is Practical?



**Against Cost Basis
for Competitive Rates
Even When It Builds
Traffic and Revenues**

**Favors Cost Basis
for Competitive Rates
When It Brings Gain in
Traffic and Revenues**

on dried beans from Clare, Mt. Pleasant, and Rosebush (Mich.) to Chicago, for an average haul of 270 miles.

This rate is alleged to "meet" a railroad rate. The 25-cent rail rate, however, applies only on a 50,000-lb. minimum, and the shipper must load and the receiver must unload. Moreover, if the shipper and receiver are located off-track, they must also pay drayage.

The present truck rate for a 20,000-lb. minimum is 30 cents, and is the same as the existing rail rate for a 30,000-lb. minimum—the shipper and receiver doing the loading and unloading, and paying drayage if any is needed.

The truck rate, by contrast, includes door-to-door service and truckers do the loading and unloading. **Obviously what the truck is doing under the camouflage of "meeting" the rail rate is actually, for all practical purposes, to cut substantially under the rail rate.** Now let's see what would happen if both rail and truck rates on this particular traffic were based on comparative costs,

products seem greater bargains to the public than they are, by getting a growing part of the cost of highway transportation taken out of the hides of landowners and taxpayers (as Mr. Horner and the Bureau of Public Roads urge), that will be only the beginning. If this kind of coercion can be used for the benefit of the interests which surround highway transportation, what's to prevent the same coercion from being used to make coal consumption more attractive—that is, to use taxpayers' money to force an increase in the consumption of coal? Or housing, movies, clothing or radios?

There is no telling where the kind of thing that Mr. Horner and the Bureau of Public Roads have invented will stop after it has started. It seems certain that, if the idea wins for highway transportation, it will lead to government ownership of railroads. But when *that* happens, all the fine schemes of the National Highway Users' Conference will come to naught—because all they want is to have highway transportation *seem cheaper* than it really is so they can take traffic away from the railroads; and when the railroads also have the United States Treasury behind them, this advantage will disappear.

The oil interests and the truck interests and the road-building interests themselves will then have higher taxes to pay; and their competitive advantage will have vanished. But meantime other industries—even though they may not like the theory of state intervention in their business—will be forced to follow the example the National Highway Users' Conference has set for them as a matter of protection for their share of the customer's dollar. The outcome can only be a larger use of government taxing power in all industry—and hence a burden on taxpaying enterprise which will be so unbearable that still further government aid must be sought. Can the final end be anything else but state socialism?

Why Don't All These Communists Join the Communist Party?

Mr. Horner is really trying to perform not merely one miracle, but two—not only that of elevating highway transportation from the low category of economic services that the users must pay for, but also that of securing adoption of a huge entirely socialistic plan to further the selfish interests of certain giant industries that are still private enterprises. That is not the best way in the long run to help *any* private enterprise—it is the best way in the long run to promote destruction of *all* private enterprise.

In conclusion, we cannot refrain from expressing a wish that all these promoters of communistic policies—Comrade Berle, assistant secretary of state; Comrade Horner of Big Business; Comrade McDonald, head of the Bureau of Public Roads; members of the Mississippi Valley Association and the National Highway Users' Conference, and other "fellow travelers" who are advocating government investment that would drive out and destroy private investment—would formally

join the Communist party and thereby publicly avow their true political and economic faith. No doubt they give more effective support to Comrade Stalin of Russia and Comrade Browder of the United States while they continue to bellow for private enterprise; but they would make it so much easier for real advocates and defenders of private enterprise to show up both them and their true principles if they and the long list of public officials affiliated with communism whose names were recently published by the Dies Committee would publicly join up with Comrades Stalin and Browder.

The situation recalls a cartoon that was published in this country during the peace conference at Versailles. The Communist representatives of Russia were all depicted with long whiskers; and the line beneath the cartoon read: "We wish these Russians would shave so we could tell whom we are dealing with."

Recklessness at Crossings

Nearly all of the state legislatures have passed laws requiring highway users to exercise due care at grade crossings. This is a step in the right direction, but it is hopelessly inadequate unless such laws have teeth in them and are properly enforced, which is frequently not the case at present. A study of the summary of accidents investigated by the Interstate Commerce Commission for the year ending June 30, 1939, supplies adequate and tragic proof that recklessness bordering on the criminal is not to be eliminated simply by the passage of impotent laws.

The lack of policing of crossings is evident in any analysis of accidents, and the details would almost seem to show a tendency toward mass suicide on the part of highway users, and particularly truck drivers. In accident after accident, vehicles were driven onto the tracks directly in front of approaching trains, usually in broad daylight, and not infrequently with signals flashing and bells ringing warnings that it would seem impossible to ignore.

Another characteristic of these accidents is that an abnormally high percentage of the trucks involved are oil tank trucks. Certainly it would seem that drivers engaged in this inherently perilous occupation would be more careful than others, but the reverse seems to be true. Another fruitful source of accidents is supplied by mobile road-building machinery. The operators of these machines seem to be lulled into a false sense of security by the size of their vehicles and they carry road-hogging tactics onto railway tracks, with disastrous results. When a road-grader and a locomotive meet, the former invariably comes out of the encounter second best, but not infrequently the train is derailed, and the carelessness of the operator of the highway vehicle results not only in tragedy for himself, but in danger and death for the train crew and the passengers.

A number of cities throughout the country have materially reduced their automobile accident rates. In Providence, R. I., for example, where several such accidents formerly occurred daily, the rate has declined to almost nothing. The solution is simple. In Providence, certain rules for sane, sensible driving are promulgated, and they are scrupulously observed. There is no such thing as a minor infraction in Providence. One is either driving safely or he is not—and, in the latter case, punishment is sure and swift. Some such laws with teeth in them, and with proper policing to back them, are needed to reduce the number of grade crossing accidents. The need for policing and the extreme value of this service in reducing accidents at grade crossings are strikingly shown by the clear record of states such as Pennsylvania, for example, where an adequate highway policing system is maintained.

Railway Results in September

The increase of railroad freight traffic in September was the largest in a single month over the previous month of which there is any record; and it produced some striking results—among others, remarkable increases in both gross and net earnings.

The suddenness of the change is shown by comparing—or contrasting—August and September. In August average weekly freight loadings were 672,300—smaller than in 1931, 1936 or 1937, and not much larger than in 1933. In September they were almost 769,000—larger than in the same month of any year since 1930 excepting 1937. Gross earnings in August were 344 million dollars—smaller than in 1931, 1936 and 1937.

In September they were 381 million—the largest in the same month since 1930, and the largest in any month since 1930 excepting October, 1936. In August net earnings were 54½ million dollars—smaller than in the same month of 1931 or 1936. In September they were 86½ million—the largest in any September since 1930, and the largest in any single month since 1930 excepting in October, 1936.

As will be noted, October, 1936, was long the banner month since 1930 in both gross and net earnings. It produced gross earnings of 391½ million dollars and net earnings of almost 90 million—about 10 million more gross and 3½ million more net than September, 1939. But it will be shown to have lost its banner by a wide margin by complete figures for October, 1939, when they become available. Average weekly freight loadings in October were 844,000 cars—almost 10 per cent, or 75,000, larger than in September—in fact the largest in any month since November, 1930. Consequently, the figures for October can be confidently expected to show considerably the largest gross and net earnings made in any month since 1930.

Car loadings have not as yet shown any tendency to recede more than seasonally from the level to which they so suddenly ascended in September and October. In the six weeks ended October 21 they averaged 72.5 per cent as large as in the five years 1925-1929; and in the week ended October 27 they were 72.7 per cent as large.

The sudden upward surge of traffic has not only afforded opportunity for railway management to show how efficiently the present railway plant can handle business, but also how rapidly railway net earnings and credit can be improved by a large increase in gross earnings unaccompanied by an abnormal—or, as in this instance, even a normal—increase in operating expenses.

No Need for Federal Control—War or No War

"If, for some reason, or reasons (the soundness of which I cannot myself understand) war conditions abroad should further affect our domestic economy, certainly, it seems to me, the railroads' part in such common problems with which we may be confronted can best be handled by the representatives of the owners, headed up through our own Association, having the power, specifically granted by law, to use those same methods to meet conditions and avoid congestion which would obtain in the event of Federal Control; with this proviso, that, in the event of relaxing laws in effect in normal times to meet emergency conditions, some representative, or representatives of the federal government might wisely sit and advise with the Association of American Railroads.

"This would seem to me, individually, the proper course, in the public interest. In such event, all forms of carriage should, as always, be treated without favor or discrimination.

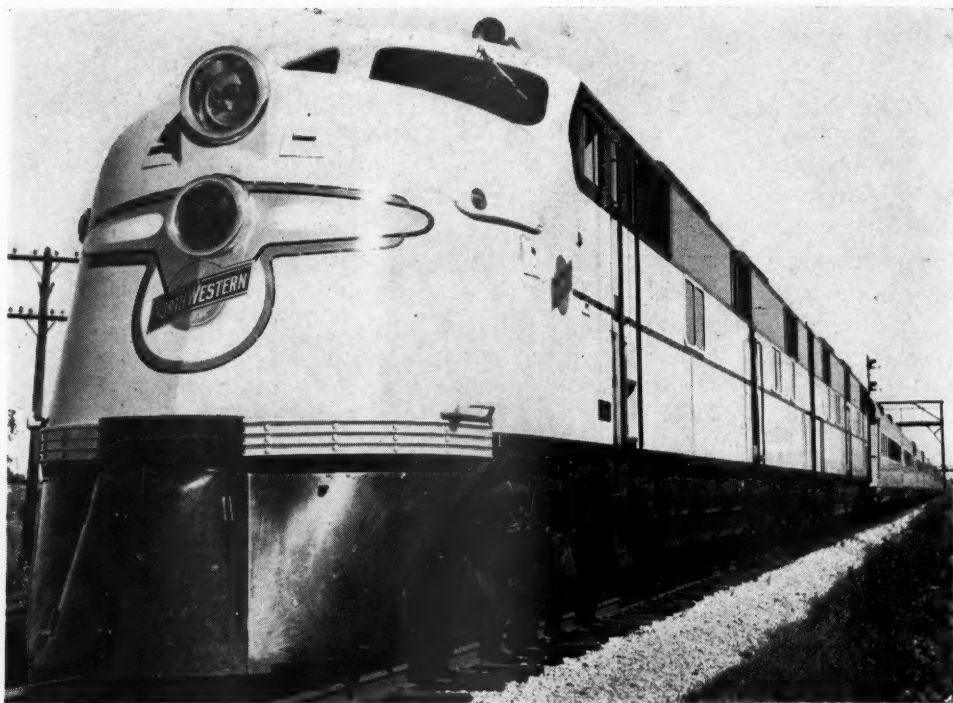
"It seems clear to me that emergency conditions can be better met through private operation, in the manner heretofore suggested, than in any other way; just as it likewise seems to me clear that the American railroads

are and will be prepared to do their full part to meet any conditions as they may arise. . . .

"I may, parenthetically, observe that, so far as I have been able to ascertain, there has been no suggestion, from any source, that privately owned and operated boat and barge lines, truck and bus lines, and air lines, now enlarge their own carrying facilities over normal requirements on the theory that possibly, due to an unknown and doubtful emergency, more will be needed.

"In my opinion, the air lines and the motor carriers have done and are doing splendid work in serving the public. They are here to stay. They have, I think, due to the laws of the land, some very unfair advantages over the railroads, and this condition should be corrected. The inland waterway situation is different—much, if not most, of the public money spent to promote this class of transportation has been, in my opinion, an economic waste. What the nation needs is for some wholly non-partisan, unselfish, competent body—the Brookings Institution merely as an example—to study the whole transportation field, with the end in view of ascertaining the best methods of bringing order into the present chaotic situation—taking the public interest, both in war and in peace, as its primary guide."

From an address by President Fitzgerald Hall of the N. C. & St. L. to the Chicago Assn. of Commerce.



North Western Places New "400" Streamliners in Service

Two trains of ten cars each, built by Pullman-Standard, are hauled by new 4,000-hp. Electro-Motive Diesels

THE Chicago & North Western has recently placed in service two complete new "400" streamliners which operate northbound and southbound daily, on an average mile-a-minute schedule between Chicago and St. Paul-Minneapolis, Minn. Each train consists of a new 4,000-hp. two-unit Diesel-electric locomotive, built completely by the Electro-Motive Corporation, subsidiary of General Motors, at La Grange, Ill., and 10 passenger-carrying cars, including one baggage-tavern car, four modern coaches (one equipped with a stewardess' room), one dining car, three parlor-drawing-room cars and one parlor-observation car. All of these new cars were built at the Pullman, Ill., plant of the Pullman-Standard Car Manufacturing Company.

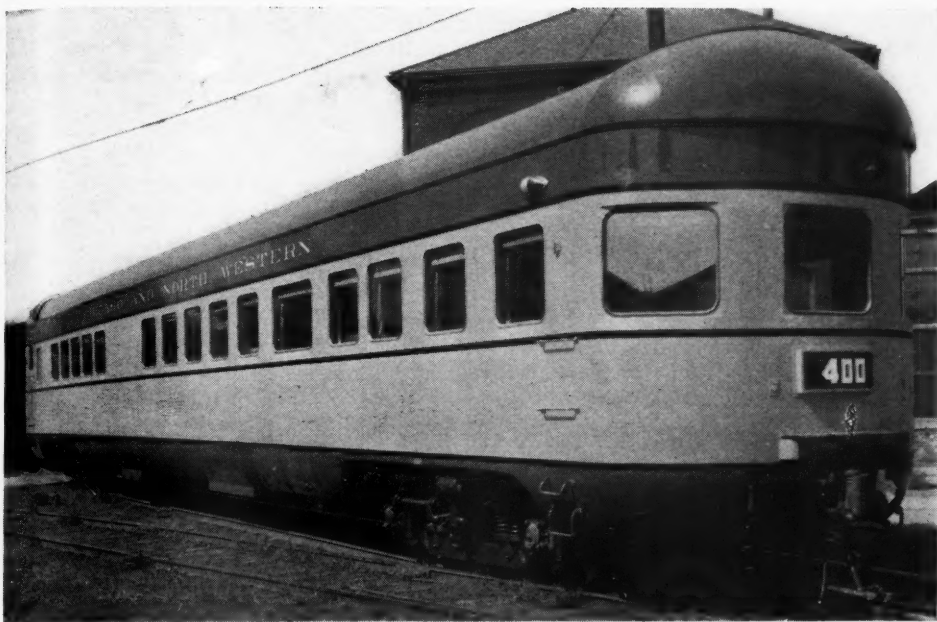
Constituting the most recent addition to the list of important streamline trains in this country, the new "400" is distinctive in appearance, architectural and decorative treatment, and interior appointments, being well adapted to capture the imagination and favor of the traveling public. While the cars are not articulated, a modified streamlining has been adopted which gives the train a unit appearance, with a brilliant yellow band through the window and belt rail section, set off by a dark green color on the letter board and roof and also on the skirt below the sills. The train is 960 ft. long, weighs 885 tons, including 308 tons for the locomotive, and has a total seating capacity of 486, including 309 revenue and 177 non-revenue seats.

The train is designed for high-speed service, making

the 400-mile run between Chicago and St. Paul in 6½ hr. without changing the locomotive or without the necessity of excessive top speeds. The Diesel-electric locomotive is said to be designed for a maximum speed of 117 m. p. h., but due to rapid acceleration and deceleration and limited stops for servicing, high average speed is maintained without the necessity for excessive maximum speeds, thus contributing substantially to passenger comfort and safety. The lower center of gravity of this equipment is a definite advantage in negotiating curves at high speeds with minimum side sway and attendant discomfort for passengers.

Features of the Diesel-Electric Locomotives

Each of the new Diesel-electric locomotives used on the North Western's "400" trains consists of two 2,000-hp. units which may be operated independently if occasion demands. The two units, coupled together, provide 4,000 hp., and are arranged so that they can be operated from either end. Each of the 2,000-hp. units carries as its prime mover two 1,000-hp. General Motors two-cycle, V-type, 12-cylinder Diesel engines. A 600-volt direct-current generator is coupled to the front end of each of these engines. Current from the generators is transmitted to two traction motors mounted on each truck of the unit; thus the total prime-mover and power-transmitting equipment in each locomotive consists of four 1,000-hp. Diesel engines, four 600-volt generators



and eight traction motors. Power finally is applied at the rails through 16 driving wheels, a feature which is responsible in part for the ability of the locomotive to start long heavy passenger trains smoothly and rapidly.

High train-operating speeds present new problems in springing which have been met in the new locomotive in such a way as to assure improved riding qualities and greater stability by a new method of load suspension. Four hydraulic shock absorbers, coupled with carefully-designed springs on each unit, dampen side sway and also act to ease the load against the truck frame when the locomotive is entering or leaving curves. The trucks have Commonwealth one-piece cast-steel frames, Simplex unit-cylinder clasp brakes and Timken roller-bearings.

The locomotive is equipped with a Vapor-Clarkson steam generator of the automatic oil-burning type in each unit to supply train heat. A Mars signal light gives warning to motorists and pedestrians of the approach of a high-speed train. This light flashes upward and sideways with a swinging motion in the form of a figure eight and is projected a distance of 1,400 to 3,000 ft.

Each unit carries 1,100 gal. of train-heating boiler water and 1,200 gal. of fuel oil. Ordinary fuel oil, such as is used in household heating is burned in the Diesel engines. With a full supply of fuel, boiler water and sand, the total weight of the two-unit locomotive is ap-

proximately 616,000 lb. The total length is 140 ft.; height, 13 ft. 11 in. above rail; and width, 9 ft. 10 in. Air brakes are of the Westinghouse H. S. C. type, modified to work in conjunction with automatic train control.

General Arrangement of the Car Interiors

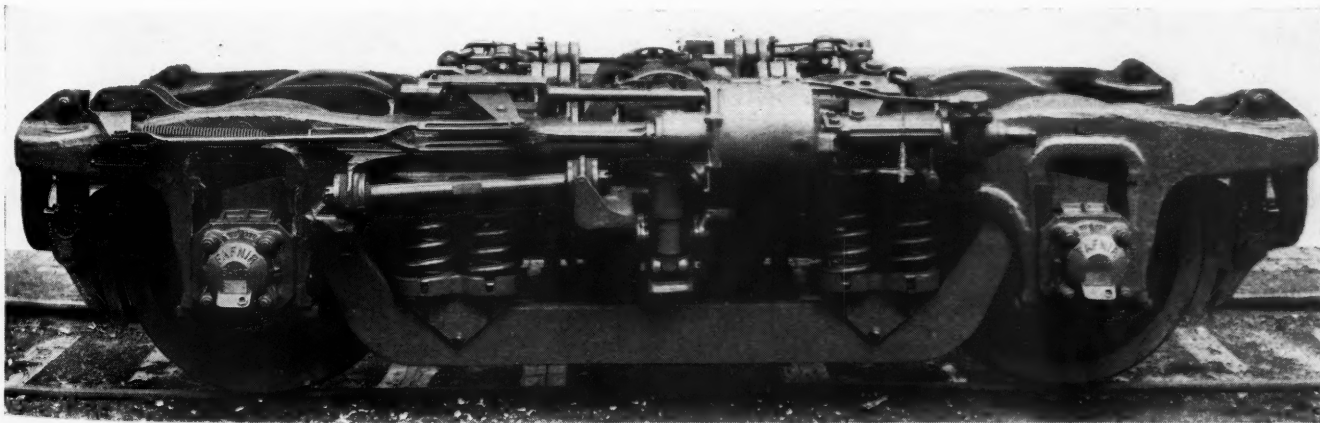
Passenger cars in the new "400" each has a coupled length of 82 ft. and distance between truck centers of

Light Weight of Individual Cars in One of the New "400" Trains

Car No.	Kind	Body, lb.	Trucks, lb.	Total, lb.
7500	Baggage-tavern	84,150	36,450	120,600
3400	Coach-stewardess' room	77,200	36,500	113,700
3410	Coach	77,200	36,400	113,600
3411	Coach	77,300	36,100	113,400
3412	Coach	77,600	36,100	113,700
6950	Diner	86,850	38,250	125,100
6500	Parlor-drawing room	76,450	36,450	112,900
6501	Parlor-drawing room	76,600	36,200	112,800
6502	Parlor-drawing room	76,500	36,500	113,000
7200	Parlor-observation	78,120	36,380	114,500
Total weight of 10 cars, lb.				1,153,300
Total weight of 10 cars, tons				577
Weight of locomotive in working order, tons				308
Total train weight, tons				885

57 ft., with the exception of the diner which is 8 in. longer. Individual car weights are given in the table.

The baggage-tavern-car has space allotted to various



One of the Car Trucks Especially Designed for Easy Riding at High Speeds



The Coffee Shop

services beginning at the forward end as follows: Baggage room, 12 ft. 9½ in.; men's and women's toilets on opposite sides of the aisle, 4 ft.; a "rathskeller" or tap-room of four card sections, seating 16, 12 ft.; bar, 6 ft. 9 in.; kitchen, 10 ft.; coffee shop seating 10 at a counter, 19 ft. 8 in.; lounge seating 10 in movable chairs, 10 ft. 7½ in.; lockers, 4 ft.

In a 10-ft. 3½-in. section at one end of each coach is a women's toilet and separate powder room on one side of the aisle, and a men's toilet and baggage rack on the other, 11 ft. 4 in. in the other end being devoted to a lounge, with side corridor, which has a seating capacity of eight. The main passenger compartment, 48 ft. 2 in. long, has seats for 56, the individual seats being spaced 3 ft. 5½ in. on centers. In one of the four coaches, the seating capacity has been reduced to 48, to allow additional space for a 6 ft. 11 in. room, adjacent to the lounge, which is fully equipped as a nurse's or stewardess' room for the care of passengers who may be indisposed.

The dining car kitchen is 16 ft. 3 in. long, pantry 10 ft. 9 in., and main dining compartment 42 ft. long, with a seating capacity for 56. The parlor car has a 10-ft. 3½-in. section in one end devoted to toilet facilities, arranged similarly to those in the coaches, and an 11-ft. 4-in. lounge seating eight in the other end. Adjacent to the lounge is a 6-ft. 2½-in. drawing room with adjoining toilet. The main passenger compartment in the center of the car is 39 ft. 7 in. long, with 22 seats spaced 3 ft. 5½ in. apart on centers.

The parlor-observation car has 4-ft. toilet rooms in the forward end and an adjoining parlor section 22 ft. 2½ in. long, seating 12. Locker facilities and a bar occupy 13 ft. 8 in. near the center of the car; the observation lounge in the rear is 37 ft. long and has a seating capacity for 29.

Distinctive Decorative Treatment

The interior of the "400" is a masterly achievement in the field of decorative treatment. New and pleasing

color schemes are used in every car. Modern fabrics and metals give novel and highly pleasing effects, yet the chief impression is that of harmony and beauty rather than novelty alone.

Many notable comfort features catch the attention, especially the rubber-cushioned seats of modern design. The outer pane of each window is of Solex glass, a new type of green-tinted glass acting as a filter to reduce sun glare to a minimum.

The interior lighting is also noteworthy. Lamps with special Luminator lenses throw soft cones of light, giving a diffused illumination. Air conditioning without drafts is achieved by means of perforated metal ceilings, which give an even distribution of air throughout the cars. A profusion of mirrors, most of them tinted a flesh color, enhance the charm of the car interiors and give an added effect of spaciousness and luxury.

At the forward end of the tavern car is a tap room with the friendly atmosphere of a continental cafe. Fac-



Interior of One of the Coaches

ing the room is a semi-circular bar, upholstered in red leather, tufted in squares, with chrome steel buttons. Bar fixtures and cabinets are resplendent with monel metal and Lucite. The mirrors are flesh tinted. Flooring is of terra cotta rubber tile with blue and cream inlays. Directly over the bar is one of the novel and popular features of the train, a speedometer with illuminated figures on the dial to indicate the train speed. Grouped close to the bar are aluminum-framed blue leather chairs and tables. Farther down the car is the lunch counter, its front, like that of the bar, in red leather, and sparkling with shelves of Lucite. Stools are red-leather covered. It is a highly inviting coffee shop, serving lunches or light meals at moderate prices.

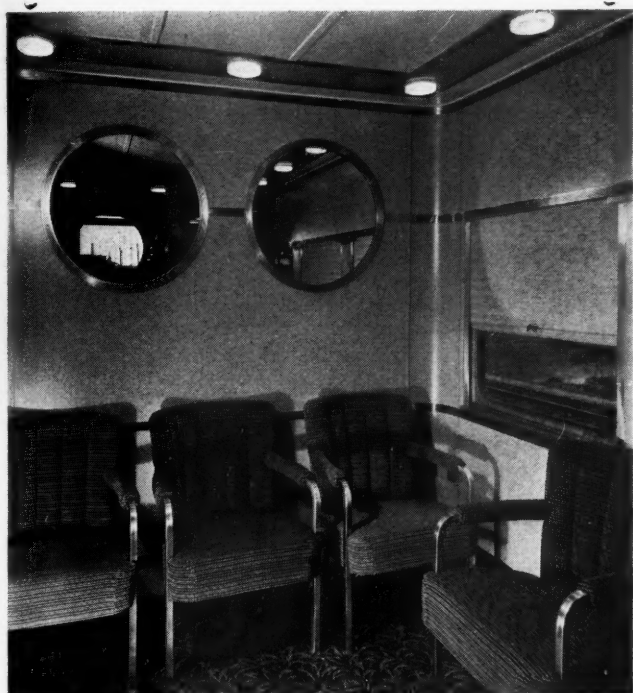
At the rear of the car is a lounge with deep-cushioned chairs and sofa where passengers may converse, read, or enjoy the radio program. Chairs are of satin-finish aluminum, upholstered with a Pebble-tweed in shades of blue and coral. Carpeting is brown and beige. Venetian blinds and draperies add a note of luxury. A photo-mural frieze of sport scenes carries the eye around the room. Chinaware and silver are of special design.

The coaches are luxuriously comfortable and richly decorated. Seats are of the latest type, deep rubber-cushioned and individually adjustable to any position, the

seat automatically sliding forward as the back of the chair reclines. Pressure on a button causes the chair to spring back to normal sitting position. Each seat has an individual reading light.

Novel features of the coaches are the women's powder room and lounge-smoking room, the former introducing a note of elegance utilized for the first time in coach travel. The smoking room for both men and women is a cozy lounge. Each coach has its own color scheme, one in blue, one in green and one in beige. The floor covering is of marbled rubber tiling with harmonizing color inlays.

Peach-beige Venetian blinds with rose colored drapes set off the windows in the dining room. Other features are a carpet of coral and burgundy, satin-finish aluminum chairs, some upholstered in green leather, others in red. China, linen, glassware and silver service were custom-made for the "400." Moderately-priced meals are served. Each parlor car has a powder room and a smoking lounge and, in addition, has a drawing room for those who wish privacy. The parlor cars are finished in pastel tones. Golden-tinted sepia photo-murals depict scenes along the route of the Chicago & North Western. Deep-piled carpeting rests on a rubber-mat



Smoking Room with Rubber-Cushion Chairs, Circular Mirrors and Luminator Light Fixtures

cushion. The individual chairs are easily adjustable to any position desired.

In the parlor-observation car are lounging chairs, card tables, a magazine table, radio, and the speedometer. The ceiling of this car is of ceramic blue and the wall base of cinnamon. Wainscoting is natural color cork. Venetian blinds are a suntan tint; drapes, tan; window shades, blue. The two-tone blue carpet contrasts delicately with the apricot herringbone upholstery.

General Construction of the Cars

The framing for the new "400" cars is of high-tensile alloy steel, of the welded girder type construction, designed to provide adequate strength to meet the Rail-

way Mail Service requirements, including provisions for horizontal compression forces as called for in the A. A. R. proposed specification, dated March 24, 1939.

The underframe center sills are of Carnegie-Illinois special center-sill steel, with a yield strength of 40,000 lb. per sq. in. Bolsters, cross-bearers and end sills are of built-up welded construction with a cast-steel center portion in the end sills.

Roofs are of the turtle-back type with roof sheets of No. 16 gage high-tensile steel. The floors consist of .051-in. aluminum sub-floor and pressed corrugated aluminum floor. Depressions in the corrugated floor are filled with cork strips and the entire floor area covered with a layer of 1-in. cork. Insulation in the floor is 2-in. Stonefelt, Type M, and in sides, ends and roof, 3-in. Stonefelt, Type M, muslin covered.

Draft gears are a combined draft gear and buffer consisting of a balanced twin group of Waughmats, each group having six No. 738 Waughmats and six galvanized separator plates. Couplers are of the A. A. R. tightlock rotating type, of high-tensile steel with 9-in. diameter machined ball end, with 5-in. diameter shank at the ball end and 3 3/4-in. radii connecting the 6-in. by 6-in. shank to the head.

The end closure is the Pullman type of inner and outer diaphragm arrangement with vertical rubber-mounted stay rods and upper helical spring and lateral rods to minimize noises. At the platform, the face plate is backed by two side stems with helical springs.

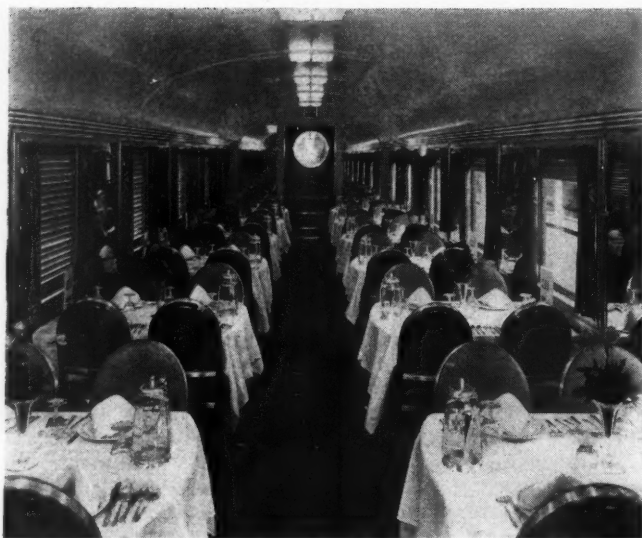
The interior finish is of aluminum with Caf-O-Lite window cappings. Side sash are of the Hunter dehydrated-type with inner laminated safety glass and outer Solex glass, except sash in toilet rooms and lavatories where single glazed sash are used in which the glass is of Rubanite design.

The air-conditioning system is of the mechanical type, consisting of Waukesha engine-compressor set and accessories and Trane vertical-type floor-mounted air-conditioning unit, consisting of cooling coil, heating coil, blower fan, blower-fan motor, expansion valve, etc. The system has a capacity of 7 1/2 tons.

The water-supply system is of the air-pressure type with piping of copper tubing with sweated fittings. The



Card Section and Bar—The Upholstery Is Leather—The Speedometer Is Illuminated



The Dining Car Seats 56

heating system is Vapor thermostatically controlled, with unit fin-type radiation and corelative control.

Air brakes are Westinghouse electro-pneumatic, Schedule HSC, with No. D-22-B control valve, speed governor and straight-air control. Electric current for actuating the brakes is 64 volt, supplied from the locomotive power units.

Generators to provide electric current for lighting are the Waukesha 7½ kw. engine-generator set, consisting of a Waukesha engine-generator set and controls. Like the Waukesha engine-compressor set, the lighting set is mounted on transverse tracks under the car. The identical engines of these two units are each of 20 hp. capacity.

New Design of Four-Wheel Truck

The trucks used with the cars of this new train are of the four-wheel type, having a 9-ft. wheel base and are equipped with Commonwealth alloy cast-steel frames, Simplex unit-cylinder clasp brakes and Fafnir roller bearings. Heat-treated alloy steel equalizers are installed, two per truck, with a pair of single-coil helical equalizer springs adjacent to each journal box. The particularly new features of the truck are helical bolster

springs in combination with shock absorbers and stabilizer rods to replace the customary elliptic bolster springs and transom chafing plates.

The bolster, the spring plank when used, and the swing hangers are of the conventional type, but designed to receive two 10-in. dia. by 12½-in. high helical springs at each end instead of the usual elliptic springs. These springs respond faster to load variations, shocks, etc., due to the absence of friction found in an elliptic spring, but because of this absence of friction also rebound faster. To compensate for this spring activity, a single-acting Monroe shock absorber is mounted vertically outside the truck frame at each end of the bolster, the top of the absorber being attached to a bracket on the frame, and the bottom to an extension on the bolster. All trucks have a rubber bumper on the bolster at each end, which strikes the truck frame and softens extreme lateral motion. The usual spring plank is omitted on the trucks under the dining cars, and in its stead a set of stabilizing levers are used, whose function is to maintain a level bolster on track curves.

Chafing plates between the bolster and transoms have always been a source of hammer-like blows that are



The Predominant Tones of the Observation Lounge Are Blue and Tan



Individual Seats, Lighting Equipment and Decorative Treatment in One of the Parlor Cars

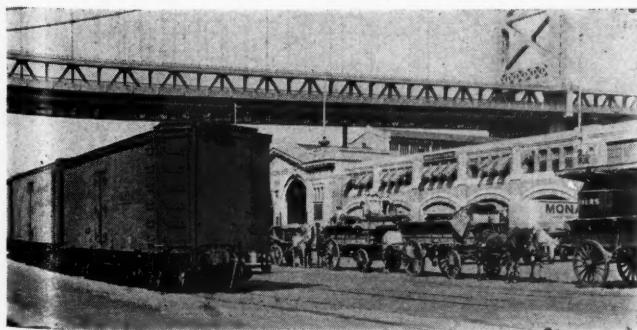
transmitted to the car body if the clearance is too great. If there is insufficient clearance, binding of the bolsters results in hard riding, and excessive maintenance. In these trucks, ½-in. clearance is allowed on each side between the bolster and the transom, the bolster thus being free of any contacts with the main truck frame. To keep the bolster in this free condition, it is guided in its vertical movement by two horizontal stabilizer rods, one attached to each end and connected to a bracket on the truck frame. Each end of these rods is carried in rubber bushings, which flex sufficiently to allow for the swing of the rod with vertical motion of the bolster.

Partial List of Specialties on the Cars of the New "400" Trains of the Chicago & North Western

Car builder	Pullman-Standard Car Manufacturing Co., Chicago
Car body materials:	
Alloy steel	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Aluminum alloy	Aluminum Co. of America, Pittsburgh, Pa.
Stainless steel	Allegheny-Ludlum Steel Corp., Pittsburgh, Pa.
Insulation:	
Cork	David E. Kennedy, Inc., Brooklyn, N. Y.

Stonefelt	Johns-Manville Sales Corp., New York
Truck castings	General Steel Castings Corp., Eddystone, Pa.
Wheels	Armco Railroad Sales Co., Middletown, Ohio
Roller bearings and boxes	The Fafnir Bearing Co., New Britain, Conn.
Side bearings	Alcoma Railway Equipments, Chicago
Clasp brakes, Simplex unit cylinder	American Steel Foundries, Chicago
Air-brake equipment	Westinghouse Air Brake Co., Wilmerding, Pa.
Tight-lock couplers	National Malleable and Steel Castings Co., Cleveland, Ohio
Metallic steam connectors	Barco Manufacturing Co., Chicago
Draft-gear rubber mats	Waugh Equipment Co., New York
Diaphragms:	
Rubber (outer)	United States Rubber Co., New York
Canvas (inner)	The Morton Mfg. Co., Chicago
Vestibule side curtains	The Adams & Westlake Co., Elkhart, Ind.
Window sash	Hunter Sash Co., Inc., Flushing, L. I., N. Y.
Window glass:	
Solex	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Rubanite	Pressed Prism Plate Glass Co., Chicago
Engine-generator units	Waukesha Motor Company, Waukesha, Wis.
Batteries	Gould Storage Battery Corp., Depew, N. Y.
	Electric Storage Battery Co., Philadelphia, Pa.
Lamp and generator regulators ...	Safety Car Heating & Lighting Co., New York
Lighting fixtures	Luminator, Inc., Chicago
	Safety Car Heating & Lighting Co., New York
	The Pyle-National Company, Chicago
Air-conditioning system:	
Ice engine	Waukesha Motor Company, Waukesha, Wis.
Cooling unit	The Trane Company, La Crosse, Wis.
Air filters	Air-Maze Corporation, Cleveland, Ohio
Steam-heating equipment; air-conditioning controls	Vapor Car Heating Co., Inc., Chicago
Window capping	Caf-O-Lite Company, Muskegon, Mich.
Venetian blinds	H. B. Dodge Company, Chicago
Window-shade fixtures	National Lock Washer Co., Newark, N. J.
Reclining seats	Coach & Car Equipment Co., Chicago
	Heywood-Wakefield Company, Gardner, Mass.
Chairs, loose	Heywood-Wakefield Company, Gardner, Mass.
	General Fireproofing Company, Youngstown, Ohio
	Karpen Brothers, Chicago
	Pullman-Standard Car Manufacturing Co., Chicago
Fabrics and leathers	Collins & Aikman Corporation, New York
	Massachusetts Mohair Plush Company, Boston, Mass.
	L. C. Chase Co., Inc., New York
	Orinoka Mills, New York
Formica	Formica Insulation Company, Cincinnati, Ohio
Refrigerators and ice chests	Pullman-Standard Car Manufacturing Co., Chicago
Range equipment	Detroit-Michigan Stove Co., Detroit, Mich.
Kitchen steam table	The Stearnes Company, Chicago
Washstands and fittings	Crane Company, Chicago
Hoppers	West Disinfecting Company, Chicago
	Pullman-Standard Car Manufacturing Co., Chicago
Hopper seats	Brunswick-Balke-Collander Co., Chicago
Floor covering:	
Rubber	Midgley & Borrowdale, Chicago
Carpet	Chas. P. Cochrane Company, Chicago
Linoleum	Armstrong Cork Company, Lancaster, Pa.
Carpet padding	United States Rubber Co., New York
Paints:	
Exterior	E. I. du Pont de Nemours & Co., Wilmington, Del.
Interior	Murphy Varnish Co., Newark, N. J.

* * *



Reefers and Drays Wait For the Banana Boat at Philadelphia's Waterfront Street

Traffic Clubs Favor Institute of Management

A NATIONAL Institute of Traffic Management, having for its purpose a co-ordination of the many phases of traffic work, was endorsed by the Associated Traffic Clubs of America at its eighteenth annual convention at Chicago on November 6-8. The activities of the Institute will be directed toward the betterment of all phases of traffic conditions with a view to facilitating the movement of the nation's commerce. Favorable reception of the proposal by the profession generally was reported by a special committee. The Association of Practitioners before the Interstate Commerce Commission has approved the idea in principle, although it does not feel that it should sponsor the project. The National Industrial Traffic League will consider the proposal at its next meeting.

New Officers Elected

Another important action taken at the meeting was the creation of the position of vice president in charge of education and research. Heretofore the work has been carried on by a committee with G. Lloyd Wilson, professor of transportation of the University of Pennsylvania, as chairman. Mr. Wilson was elected to the new position and will now direct education and research among the clubs on a national basis.

Other officers elected for the ensuing year were: President, C. R. Musgrave, vice president of the Phillips Petroleum Company, Bartlesville, Okla.; executive vice president, F. A. Doebber, traffic manager of the Citizens Gas and Coke Utility, Indianapolis, Ind.; secretary, J. E. Paulan, assistant traffic manager of the Acme Steel Company, Chicago; and treasurer, W. T. Vandenburg, retired commercial agent of the Seaboard Air Line, Louisville, Ky., reelected. J. M. Fitzgerald, vice chairman of the Committee on Public Relations of the Eastern Railroads was reelected chairman of the board.

The docket of the meeting provided for addresses by five outstanding men, the discussion of important traffic subjects, reports of committees and the awarding of prizes for outstanding work in the field of traffic. H. L. Hamilton, president of the Electro-Motive Corporation spoke on the application of Diesel power to the railroad industry, saying that future development depends upon the comparative economy of this form of power. So far, he continued, some saving has been made by the use of Diesel electric passenger locomotives, but the Diesel electric switching locomotive, with the economies already demonstrated, presents a much better picture of the future possibilities of this type of power.

W. Y. Blanning, director of the Bureau of Motor Carriers of the I. C. C., cited some of the problems confronting the Commission in the application of the motor carrier act. Shippers, he said, should avoid the employment of motor carriers that are operating without necessary authority. One-third of the penalties imposed for violations are upon shippers who knowingly employ unauthorized carriers, or who pay charges which they know are different from those lawfully on file. It is equally important, he continued, that shippers do not secure rate concessions in violation of the tariffs, nor secure advantages over competitors by devious means, or induce carriers to publish specific rates which are below the cost of the service.

"There are two principal schools of thought," he said,

(Continued on page 756)

Two Electrical Sections Get Together

Mechanical and Engineering Department representatives discuss electrical subjects and inspect manufacturers' exhibits

THE Electrical Section, Division V Mechanical, A. A. R., held a three-day meeting, October 24-26, and the Electrical Section, Division IV Engineering, A. A. R., held a one-day meeting October 24, both in the Hotel Sherman, Chicago, Ill. At the same time the Railway Electric Supply Manufacturers' Association showed electrical products for railroad application in the Sherman Hotel Exhibit Hall.

The opening meeting, held in the Grand Ball Room, was attended by members of both Sections and of the R. E. S. M. A. Chairman of the Mechanical Section, A. R. Walker (electrical engineer equipment, Illinois Central) made a brief address of welcome, and introduced Robert S. Henry, assistant to president, A. A. R. Mr. Henry outlined the railroad problem as it pertains to politics, taxes and to various forms of competition—highway, waterway and air. He said that every railroad man is a public relations man and that those regularly assigned to this function cannot be expected to do all that is required. Following Mr. Henry's address, C. H. Buford, vice-president, A. A. R., was introduced to members of the association. He said that the work of the various technical committees has done much to improve railroad service. He spoke also of the co-ordinating committee, which has been formed to so arrange the work of the sections as to avoid duplication of effort and improve committee work.

Electrical Section, Mechanical Division

In 1937, the Association of Railway Electrical Engineers became the Electrical Section, Mechanical Division V, A. A. R. The 1939 meeting is the first this group has held as the Electrical Section, and a large part of the work done by the committees consisted of revising sections of the A. R. E. E. Manual for inclusion in an A. A. R. Manual.

Illumination of Rolling Stock

The report of the Committee on Illumination of Rolling Stock recommends that 30- and 60-volt incandescent lamps be used in the place of 32- and 64-volt lamps. When the higher voltage lamps are used there is usually a marked difference in car illumination, depending on whether the train is standing or running.

Illumination intensities of from 10 to 20 foot-candles for coach lighting are recommended in the report. This is an increase from the old range of 3 to 5 foot-candles, and is being made possible, first, by the increased power available in air-conditioned cars, and second, by the advent of fluorescent lighting.

The question of brightness has been studied, since it is now understood that bright spots and high contrasts are largely responsible for eye discomfort. It is recommended that fixture brightness be less than three candles

per square inch, within the visual angles of 40 to 70 degrees.

Specific suggestions are included in the report for the lighting of coaches, dining cars, sleeping cars and parlor cars. Totally indirect lighting is not recommended because of its low initial efficiency and rapid depreciation due to the accumulation of dirt.

Discussion—The recommended lighting intensities of 10 to 20 foot-candles were changed to 7 to 15 during the discussion, since some of the members thought the former values were unnecessarily high. Considerable discussion centered around the amount of reading plane area which should be lighted by the fixtures in coaches, where one unit is used over each seat. If the area is very small, high intensity values are easily possible but the lighting becomes spotty, with high contrasts. If the area is too large, part of the light may be wasted and may extend to an adjacent passenger who wishes to sleep. An individual switch for each seat light is recommended. It was suggested that more attention be given to night lighting, that blue lamps now used are not uniform in color and that the committee might well consider the use of other colors as compared with blue.

Motors and Control

The report of the Committee on Motors and Control deals for the most part with principles and practices governing the application of electric motors and control to railway mechanical department service.

Discussion—In railroad service a motor is pretty apt to be thought of simply as a driving unit suitable for all forms of application, and it was suggested that difficulties growing out of this could be mollified by further dissemination of information on motor characteristics. It was recommended that the committee work be expanded to include instruments, motor maintenance, motor characteristics, power-factor correction and types of control.

A need was expressed for gear boxes or other drive mediums suitable for making changes from belt- to direct-motor drive.

Power Plants

A study of electrification of small terminals, with a view of eliminating steam, makes up the major part of the report of the Committee on Power Plants. Specific examples are included to show how such changes have effected marked savings in actual applications. Fully automatic oil-fired boilers are suggested for locations in which steam is used for only a few months in the year. The report also states that in colder climates the utilization of exhaust steam for heating (where available) cannot be equalled in point of economy.

Discussion—Examples, given in the report, of savings effected by electrification of small terminals do not include fixed charges. This was criticized, but the authors

of the report explained that in few instances was such information available.

Radio and Communication Systems

The report of the Committee on Application of Radio and Communication Systems to Rolling Stock describes three freight train communication systems. One, built by the Union Switch & Signal Company, employs earth currents. This was described in the 1937 A. R. E. E. Committee report, and the committee states that experience shows it to furnish satisfactory communication between one and ten miles, the tests depending to some extent on road conditions. It is recommended for use with a single carrier frequency, so that when a number of trains are operating in the same neighborhood, it would be necessary for the different operators to wait for one another, as is usually done on dispatcher's telephones.

The second system described is the RCA radio system, which has been tried out experimentally on the Pennsylvania. It consists of a radio sending and receiving set, on each the locomotive and the caboose, supplied with power, respectively, by the locomotive headlight generator and a terminal charged battery on the caboose. In the standby position, it draws about 75 watts and during transmission about 325 watts. Calls are made by modulation of the radio frequency with a buzzer. The buzzer frequency operates a slow acting relay which, in turn, rings a bell.

The system supplies simultaneous two-way communication, and has been found effective up to distances of five miles. It may be made ineffective by tunnels, but not by bridges, cuts, hills, curvature or electrification. Trial sets with one month's service may be had for \$5,200, and in larger quantities, the approximate ceiling price would be \$3,000 per train equipment. An operator's license and permission of the Federal Communications Commission for an experimental license are required for its operation.

The third communication system described is the inductor system developed by the General Electric Company. This system sets up oscillations in the rails and requires the connection of the rails to some wayside wire through impedance couplings to insure its operation over any considerable distance. Power for operation of the system is taken from the 32-volt headlight generator on the locomotive and from a 32-volt storage battery on the caboose. Power requirements for a normal range of 5 to 6 miles are 175 watts from the generator or storage batteries.

No Federal license is required, since the system does not radiate. Simplex or one-way communication is recommended, since with duplex service the set on the caboose cannot communicate with another caboose and the set on the engine cannot communicate with another engine.

Certain manufacturers have also suggested to the committee that police radio communication systems might be used for head to rear end freight train service.

In the latter part of the report, several custom-built radio receiving systems for railway train service are described, and the committee makes recommendations concerning receiver design, receiver location and installation, sound distribution, portable receivers, power supply, noise reduction and antennae design.

Discussion—The development of train communication systems is being watched with much interest, but those who discussed the report showed a lack of enthusiasm about receivers on passenger trains. They were referred to as "something that must be lived with."

The principal difficulty arises from varieties of taste among the passengers.

Car Electrical Equipment

Air-conditioning and train power supply take up the greater part of the report on Car Electrical Equipment. A recommended form of guarantee and adjustment agreement for the purchase of storage batteries was included, and a type of plug and receptacle, designed to meet every requirement of marker light service, is described and illustrated. The section on air conditioning includes detailed recommendations for the inspection and maintenance of the several types of air-conditioning equipments, including the Safety steam-ejector system, ice-activated systems, compressor-type or electro-mechanical systems, direct-mechanical systems and the Waukesha ice-engine equipment.

The section of the report on individual car power supply is a study of the possibilities of individual power units for each car. It divides the demands as follows:

Lighting	5 kw.
Air conditioning	10 kw.
Overhead heat	15 kw.
Water heating	10 kw.
Battery charging	5 kw.
Total	45 kw.

The section on head-end power supply details in tabular form all of the electrical power requirements, including heating and cooking, of a long passenger train under conditions varying from -40 deg. to 110-deg. F. Acknowledgment for the contents of this section is accorded to a paper by E. M. Bill and F. L. Sahlmann, of the General Electric Company (May, 1939, issue of Railway Electrical Engineer). Special attention was directed to the suggestion contained in this part of the report for the use of 2300-volt train lines. One user of head-end train power said such train lines are highly desirable and not impracticable.

Discussion—The discussion of the report centered around permissible tolerances for cold water pumps, air leaks in the steam-ejector type of air conditioning, heat generated by loose fuse terminals and direct-current charging plugs. The consideration of air leaks was summed up by one speaker who said, "We know that under practical conditions there will be some loss of vacuum, but we should not have to look at a leak that requires five hours to find."

A question was raised about the difficulty of moving monobloc containers in car battery boxes. This has been overcome on the Rock Island by using corrugated stainless steel or Everdur sheets to cover the bottom of the box.

Automotive and Electric Rolling Stock

Items considered in the report of the Committee on Automotive and Electric Rolling Stock include: (1) Capacity and insulation of cables for locomotive and car wiring; (2) design and performance of traction motors and anti-friction bearings; (3) specifications for Diesel-switching locomotives.

An investigation has shown that there is little, if any, consistency in the use of cables, and it is believed that consideration should be given to the presentation of A. A. R. specifications to cover important general features.

A questionnaire was sent out to 18 railroads to collect performance data on anti-friction bearings, motor loads, field coils and support of loads. The results obtained from this questionnaire constitute a greater part of the

report, and they have been boiled down by the committee into brief conclusions and recommendations.

Subcommittee C on Diesel fuel and lubricating oils reports that the question of fuels and lubricating oils for Diesel engines is in a chaotic condition. In the opinion of the committee, a study of existing specifications could and should result in two recommended lubricating oil specifications—one for paraffine base and one for asphalt base oils, and in not more than two recommended fuel oil specifications.

Subcommittee D on Diesel power plants has prepared tentative specifications for oil-electric switching locomotives of a total weight of 70 tons and above. The purpose of these specifications is to act as a guide for any railroad wishing to purchase such locomotives on specifications.

Electric Welding

The report of the Committee on Electric Welding contains a large amount of material on welding practices for inclusion in the Manual. It also describes the Union-melt electric chemical process of welding, and the development of metal spray operations. Included also are recommendations for installation and maintenance of individual operator welding machines.

Discussion—It was proposed that the committee work be enlarged to include reclamation by welding and a study of the use of Propane for cutting. It was felt that where the use of this gas was practicable, the cost of cutting could be materially reduced.

Locomotive Electrical Equipment

Most of the report of the Committee on Locomotive Electrical Equipment consists of recommended practices on the photometry of locomotive headlights. The committee has also reported on means of avoiding difficulties from frost in GRS intermittent inductive auto-manual train control equipment, and the report includes a description of the Mars Fig. 8 signal light for use on locomotives. This device is a warning light used in addition to the regular headlight. It produces a beam which is moved back and forth in a path which may be described as a Fig. 8.

Discussion—There was request for information on the removal of sleet from locomotive windows. The use of warm air applied to the inside of the glass and the application of chemicals to the outside of the glass or the wiper were suggested, but it was felt that other and more effective means should be developed. The statement was made that demands of the high-speed trains have shown need for further use of pre-focused headlight lamp bases and shock absorbers and the desirability of greater headlight beam candlepower.

Election of Officers

The following officers were elected to serve during the coming year: Chairman, F. E. Starkweather, electrical engineer, Pere Marquette; vice-chairman West, C. E. Wood, engineer train lighting, Chicago, Milwaukee, St. Paul & Pacific; vice-chairman East, G. W. Wall, electrical foreman, Delaware, Lackawanna & Western; members Committee of Direction: East, W. S. H. Hamilton, equipment electrical engineer, New York Central; West, J. E. Gardner, electrical engineer, Chicago, Burlington & Quincy; Nominating Committee: P. J. Callahan, supervisor car and locomotive electrical equipment, Boston & Maine; George T. Johnson, assistant electrical engineer, New York, New Haven & Hartford; J. C. McElree, electrical engineer, Missouri Pacific; E. Wanamaker, of-

fice electrical engineer, Chicago, Rock Island & Pacific; F. J. Hill, general supervisor car electrical equipment, New York Central.

Electrical Section, Engineering Division IV, A. A. R.

The one-day meeting of the Electrical Section, Engineering Division, was held in the Gray Room of the Hotel Sherman, Chicago, Ill., under the chairmanship of H. F. Brown, assistant electrical engineer, New York, New Haven & Hartford. E. M. Hastings, chief engineer, Richmond, Fredericksburg & Potomac, and chairman of the Engineering Division, A. A. R., made a brief address of welcome. He expressed gratification that the Engineering Division had made possible a 1939 meeting of the Electrical Section, stating that, in his opinion, the railroads are on the threshold of greatly increased activity, requiring increased services by all departments.

The Section prepared committee reports in 1938, but since no meeting was held in that year, both the 1938 and 1939 reports were discussed.

Power Supply

The 1938 report of the Committee on Power Supply directed attention to a map developed by the Federal Power Commission, showing what power supply is available in the territories in which individual railroads operate. A table, showing standby facilities now available on various railroads for servicing air-conditioned passenger cars, was compiled by the committee in 1937; this was brought up to date in the 1938 report and is again published in the 1939 report, with corrections and additions. It now includes installations on 57 railroads and terminal companies.

The greater part of the report is given over to a tentative form of agreement for the purchase of electrical power. It is presented with the idea of covering all items which should be considered when entering into a contract for electric power.

Discussion—It was suggested that the committee be assigned the task of preparing specifications for yard air-conditioning service and battery charging installations, since there is a wide variety of equipment used for these purposes.

Electrolysis

The report of the Committee on Electrolysis, prepared in 1938, concerns principally a study of leakage of stray currents through foundations of catenary supporting structures, and the electrolytic corrosion of insulator hardware.

Discussion—The report was received as a progress report.

Overhead Transmission Line and Catenary Construction

The assignments of Committee 3 on Overhead Transmission Line and Catenary Construction, include specifications for power and trolley lines crossing railways, for power lines for railroad use on railroad property, for joint use of poles for power communication and signal circuits, for maintenance of power lines and for wires and cables used in catenary construction and on power lines. The committee reports that the Telegraph and Telephone Section has a specification for bronze messen-

ger cable which must be reviewed prior to issuing an Electrical Section specification. The report also states that there has been a new development of high-strength, high-conductivity bronze which may necessitate a change in the method of approach used in the tentative specification.

Discussion—There is an unusual amount of corrosion of wires crossing railroad tracks, and tests are now being made, the results of which may have a bearing on the wire crossing problem.

Standardization of Apparatus and Materials

The report of Committee IV on Standardization of Apparatus and Materials is the most extensive included in the 1939 proceedings. It is made up essentially of four complete specifications. These are as follows: (1) Proposed specifications for rubber-insulated wires and cables, No. 14 AWG, and larger; (2) proposed specifications for varnished cloth insulated wires and cables, No. 14 AWG, and larger; (3) proposed specifications for impregnated paper-insulated wires and cables, No. 8 AWG, and larger; (4) proposed specification for asbestos-cement conduit and fittings; type 1 to be encased in concrete and type 2 not to be encased in concrete.

Discussion—Questions raised during the discussion concerned possible conflicts with the Section of the American Standards Association and the Association of Edison Illumination Companies.

Electric Heating and Welding

The subjects assigned to Committee V on Electric Heating and Welding include: (1) Application of electric heat for various purposes; (2) application of electric welding and its equivalent; (3) safety devices and procedure for installation and operation of welding equipment. The committee also calls attention to the report rendered in 1938, concerning reconditioning of flood-damaged equipment.

Discussion—The section of the report including information on the reconditioning of flood-damaged equipment was highly praised, the New Haven and several other eastern roads having found it of unusual value during floods attending the hurricane on the New England coast in the fall of 1938.

Application of Motors

The point of special interest referred to in the report of the Committee on the Application of Motors is the development of fibrous glass yarn, that is now being made into sleeving and tape and wire insulation. It is a material which will withstand high temperatures, and which, since it occupies less space than cotton, permits a reduction in the size of motors.

Discussion—The use of automatic restart equipment on fractional horsepower motors, as described in the 1938 report, was questioned as a possible hazard to men who might be working on the motors.

Clearances for Third Rail and Overhead Working Conductors

The report of the Committee on Clearances for Third Rail and Overhead Working Conductors consists essentially of a diagram, the title of which is "Clearance Lines for Pantograph, Catenary Construction and Adjacent Permanent Way Structures." It was submitted for adoption by the Electrical Section, Engineering Division in 1937, and has been revised by the committee during

the year. The diagram submitted in 1937 for publication in the Sectional Manual did not receive the approval of the Association of American Railroads. The revised diagram has received the approval of six of the eight members of the committee, and is presented in the report as information, with a view of reaching an agreement with the dissenting members.

Discussion—It was the consensus of opinion that the diagram can be modified for acceptance by all concerned.

Protective Devices and Safety Rules in Electrified Territory

In 1938, the Committee on Protective Devices and Safety Rules in Electrified Territory, submitted recommended practice for the prevention of electric sparks that may cause fire during the transfer of inflammable liquids. A similar report, entitled "Protection of Oil Sidings," was prepared by the Committee of the Signal Section. On February 14, 1939, a joint meeting was held with the Signal Section Committee, and a representative of the American Petroleum Institute. At this meeting it was agreed that the committees of the two Sections would withdraw the reports and substitute a new draft mutually agreed upon. The 1939 report of the Electrical Section, Engineering Division consists of a revised draft of the recommended practice.

Discussion—The report recommends the use of No. 4 AWG wire for electrical connections, a size which is not always available, and this specification was changed to read "the electrical connections shall be not less than one No. 4 AWG or two No. 6 AWG stranded copper-covered steel wires."

Track and Third Rail Bonds

Experience with mechanically applied railway-head bonds on the Reading is included in the report of the Committee on Track and Third Rail Bonds. Tests were made on sections of track over which the Reading's heaviest freight and through passenger business between Philadelphia and New York is operated. A total of 816 bonds were installed. A few days after the original installation, two bonds were found loose in the hole. The looseness was apparently caused by improper sharpening of the drill bits, and since June, 1936, when the installation was made, the 816 bonds have remained in service without a single failure.

The report also describes the manner in which welded bonds were applied by means of oxy-acetylene torch to the installation on the San Francisco-Oakland Bay Bridge Railway, which was placed in operation in January, 1939.

Discussion—Questions concerning "precautionary measures" to be considered in the application of bonds brought out the statement that it is possible to protect welded bonds on the side of the head of the rail, while heat treating the rail, and that bonds should be removed while rail ends are being built up or the bonds will be destroyed. One railroad reported that no damage had been done to welded bonds by building up rail ends.

Illumination

The report of the committee on Illumination brings attention to developments of fluorescent lamps and fixtures and of heating lamps. Concerning fluorescent lamps, the report states that the characteristics and behavior of fluorescent lamps are not yet fully understood, and that the production of suitable fixtures has not kept pace with the development of the lamps. Due to these

facts, it is said, the unwary consumer may fail to obtain the high light output which characterizes this type of light source and the proper application of fluorescent lamps will require the services of the best talent the country affords.

Much is made of the 250-watt lamp for producing infra-red radiation for heating purposes. This type of lamp is peculiarly effective for the drying of certain paint and lacquer solvents, as compared with drying done by hot steam pipes and similar hot bodies. The lamps, as used by one large automobile company, will dry a finished car body in seven minutes, whereas the shortest time required by other available means is 30 minutes.

Design of Indoor and Outdoor Substations

The painting of large power transformers by the flow method is described in Appendix A of the report of Committee X on Design of Indoor and Outdoor Substations. These transformers have tubular cooling pipes or radiators and painting is a costly and sometimes a difficult operation. The method of painting described consists of placing drip pans for the paint at the bottom of the transformer, thinning the paint to the required consistency and applying it to the external surfaces of the transformer and cooling pipes through a nozzle with sufficient pressure to extend a stream of paint about a foot from the nozzle. The excess paint flows down the cooling surfaces, is caught in the drip pans, and returned to a drum where it is picked up by a small motor-driven pump, and returned to the painting nozzle.

The second part of the report (Appendix B) deals with high-voltage insulation testing, and is given over primarily to a description of the testing methods developed by the Doble Engineering Company, Medford, Hillside, Mass. The method is particularly suitable for the testing of insulation such as porcelain, oil, impregnated wood, Bakelite, etc.

The latter part of the report (Appendix C) described the types of relay protection which can be developed to protect the power supply system on the Pennsylvania electrification.

The entire protective system involves a large variety of high-sensitivity apparatus extended over a wide area. In spite of its complication, it gives highly effective protection, as is indicated by the conclusion of this part of the report. It is, as follows: "Most faults occur on trolleys and transmission circuits, averaging one fault per 20 miles of transmission circuit per year and one fault per 1.17 miles of trolley per year. A large number of these are of a nature which clear when the breakers are opened so that the affected section may be immediately reclosed.

"In so far as possible, the designs and settings have been planned to give proper selective action under abnormal conditions which may occur during emergencies, while still permitting full use of the power-supplying ability of the lines and apparatus."

Discussion—The report was accepted as information.

High Tension Cables

The report of Committee XII on "High Tension Cables" refers to an extensive research program made by the General Electric Company for developing an impregnated paper-insulated, lead-sheath cable, shipped, installed and operated with an internal gas pressure. Gas pressure cables have been used in telephone service with excellent results for a number of years. At present, nitrogen under 5 to 40 lb. pressure is contemplated. Two experimental installations have been made at 15 kv.;

one a 3-conductor cable 10,000 ft. in length, installed in Yonkers, N. Y., and a second in downtown New York of two 3-conductor cables, each 5,000 ft. in length.

Discussion—The report was accepted as information.

Application of Corrosion Resisting Material to Railroad Electric Construction

Samples of various kinds of material were installed at the Hemphill Tunnel, on the Norfolk & Western, in June, 1933, and July, 1934, and were removed in July, 1939. These samples had been inspected several times; after removal they were carefully cleaned by a power-driven wire brush, and weighed.

From the results of these tests the committee believes that the corrosion resistance of brasses, containing more than 20 per cent zinc, is not satisfactory. An 18-8 stainless steel, with 2.5 per cent molybdenum, was still bright, had only a few small pits and showed practically no loss in weight. A sample of 25-12 stainless steel was not pitted on the bottom surface where it was exposed to the abrasive action of the steam locomotive blast, but there was considerable fine pitting on the top surface, where soot had collected. A wrought iron sample had a very heavy loose scale and showed a loss in weight of 42 per cent. A copper tape, when measured with a micrometer, showed a loss in thickness of about .002 in. A sample of 18-8 stainless steel stranded cable, containing 2.5 per cent molybdenum, was still bright, without pitting and had no measurable loss in weight. Samples of Keystone shaped copper wires were found in very good condition and had very little loss. Inner steel wires in this sample were rusted in several places, moisture evidently having seeped through the spaces between the outer copper wires.

Discussion—Questions raised brought out the fact that buffed or polished samples, particularly among the stainless steels, showed better resistance to corrosion than those having a rough surface.

Election of Officers

The following slate of officers was elected: Chairman, H. F. Brown, assistant electrical engineer, New York, New Haven & Hartford; vice-chairman, D. B. Thompson, mechanical and electrical engineer, New York Central. Committee of Direction (to serve three years): J. E. Gardner, electrical engineer, Chicago, Burlington & Quincy; D. M. Burckett, electrical engineer, Boston & Maine; J. M. Trissal, electrical engineer, fixed property, Illinois Central. Committee of Direction (to serve two years): J. C. McElree, electrical engineer, Missouri Pacific; R. J. Needham, mechanical and electrical engineer, Canadian National. Nominating Committee, J. S. Thorp, electrical engineer, Delaware, Lackawanna & Western; R. Beeuwkes, electrical engineer, Chicago, Milwaukee, St. Paul & Pacific; H. P. Wright, assistant engineer, Baltimore & Ohio; Sidney Withington, electrical engineer, New York, New Haven & Hartford and G. L. Sealey, assistant electrical engineer, Reading.

The Railway Electrical Supply Manufacturers' Association

The Railway Electric Supply Manufacturers' Association held its annual meeting in the Rose Room of the Hotel Sherman, at 11 a. m. on Wednesday, October 25. Officers elected to serve during the coming year are as follows: President, H. A. Matthews, Gould Storage Bat-

tery Corporation; senior vice-president, E. A. Oas, General Electric Supply Corporation; junior vice-president, H. A. Morrison, Railway Electrical Engineer; Board of Directors: R. L. Hasbrook, National Carbon Company, Inc.; J. C. Ingram, Bussmann Manufacturing Company; Frost Rutherford, Vapor Car Heating Company, Inc.; A. L. McNeill, The Okonite Company; L. A. Spangler, Westinghouse Electric & Manufacturing Company; C. J. Maloney, Cutler-Hammer, Inc.; George B. Miller, Loeffelholz Company; J. S. Hagan, Edison Storage Battery Division, Thomas A. Edison, Inc.

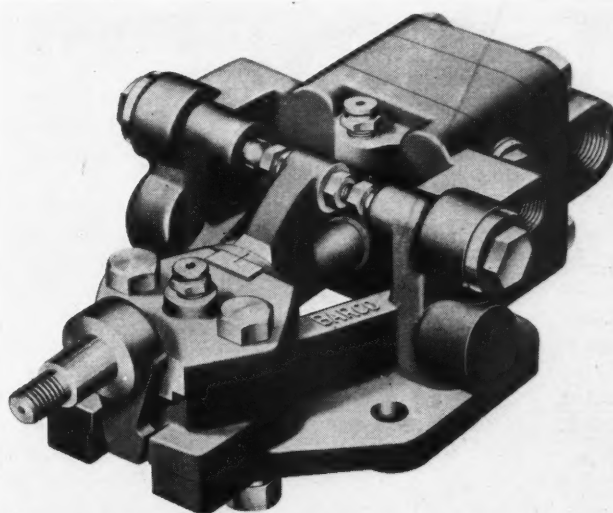
Exhibitors were:

Adams & Westlake Co.
 Albert & J. M. Anderson Mfg. Co.
 Allen-Bradley Co.
 Anemostat Corporation
 Appleton Electric Co.
 Becker Brothers Carbon Co.
 Benjamin Electric Mfg. Co.
 George R. Berger Co.
 James G. Biddle Co.
 Bull Dog Electric Products Co.
 Bussmann Manufacturing Co.
 Chase-Shawmut Co.
 Crouse-Hinds Co.
 Cutler-Hammer, Inc.
 Dayton Rubber Mfg. Co.
 Thomas A. Edison, Inc.
 Electric Storage Battery Co.
 Fairbanks, Morse & Co.
 Fulton Sylphon Co.
 General Electric Co.
 Gould Storage Battery Corp.
 Illinois Testing Laboratories, Inc.
 K.W. Battery Company
 Loeffelholz Company
 Luminator, Inc.
 Okonite Company
 Philco Radio & Television Corp.
 Portable Plating & Equipment Co.
 Pyle-National Co.
 Railway Electrical Engineer
 Railway Purchases & Stores
 Safety Car Heating & Lighting Co., Inc.
 Sunbeam Electric Mfg. Co.
 Supergear Drive Corp.
 Thompson Electric Co.
 Trumbull Electric Mfg. Co.
 Vapor Car Heating Co., Inc.
 Waukesha Motor Co.
 Westinghouse Electric & Mfg. Co.
 Daniel Woodhead Company

can be exhausted from the cylinder through separate exhaust ports only by opening the individual poppet exhaust valves.

The theory of the balanced power-reverse gear is that the greater total pressure on the rear of the piston, due to the piston rod on the front of the piston, forces the piston ahead until the pressure per square inch on the piston rod end builds up to a point where the total pressure balances the total pressure on the back of the piston. Actually, however, as soon as the pressure builds up in front of the piston beyond the reservoir pressure, the higher pressure goes back into the line and the unbalanced condition continues, causing the piston to fluctuate, or travel back and forth, continually.

With the check valves interposed, as in the Barco M-3 valve, the air in the cylinder cannot come back into the supply line through the admission ports, thereby allowing the pressure per square inch ahead of the piston to



Barco Type M-3 Power-Reverse-Gear Operating Valve with Separate Inlet and Exhaust Valves

Pioneers' Club

A luncheon meeting of the Pioneers Club was held on Tuesday, October 24. Officers elected were: Chairman, J. A. Andreucetti; secretary, Otis B. Duncan; chairman membership committee, W. H. East; chairman memorial committee, W. E. Buckmaster; chairman entertainment committee, J. L. Ohmans; chairman nominating committee, A. M. Anderson.

Power Reverse Gear Operating Valve

THE new Type M-3 power reverse gear operating valve, now being extensively introduced by the Barco Manufacturing Company, Chicago, is said to have given satisfactory results in over 600,000 miles of high-speed passenger test service. The valve is designed to assure equal total pressure on each side of the piston, except when the point of cut-off is being changed, thereby eliminating the usual cause of creepage. The cut-off position selected is held accurately, even in the event of failure of the air supply due to a broken pipe or other cause. These results are obtained through the application of check valves, in the admission ports between the admission valve and each end of the cylinder. Air

increase until the total pressure is the same on each side of the piston, providing an accurately balanced condition.

A further feature of the M-3 valve is that in the event of breakage of the air supply pipe or failure of air, the reverse gear maintains its position, as the air cannot get back out of the cylinder through the admission valve. The air can be removed from the cylinder only by moving the quadrant lever and opening one of the poppet exhaust valves.

The M-3 valve is equipped with a double air-supply inlet, with ball check provided, so that an auxiliary air supply pipe may be applied and used in the event that the regular air supply pipe breaks or fails. With this arrangement, locomotive failures from broken air supply pipes may be eliminated, as in the event of failure of the supply pipe, it is only necessary to plug the broken pipe and proceed with the air through the auxiliary pipe. As the air remains in the cylinder, the valve motion will maintain its position without damage.

The Barco Type M-3 dual control operating valve is applicable for use with all types of power reverse gears.

SOME 900 NEW AMERICAN-BUILT HIGHWAY MOTOR TRUCKS have been placed in service in Yunnan province, China, recently for hauling export goods from the interior to French Indochina for movement further by rail or steamer.

Accidents in 1938

WASHINGTON, D. C.

WHILE the year 1938 "was outstanding with respect to the relatively small number of casualties in railway accidents in the aggregate, a comparison with other years is not so favorable in the case of passenger casualties," according to Accident Bulletin No. 107 which has just been issued by the Interstate Commerce Commission's Bureau of Statistics. Meanwhile, the "record achieved by the railways in 1938 with respect to fatalities to employees is the best in the history of the industry," while "in the case of employee injuries, there was also a great improvement in 1938 over 1937, whether measured in actual numbers or in casualty rates."

Last year's railway accidents of all kinds brought death to 4,499 persons and injuries to 27,253, decreases respectively of 851 or 15.91 per cent and 9,439 or 25.72 per cent under the comparable 1937 figures. The fatality rate per million train-miles in 1938 was 5.51, lower rates having been achieved twice since 1929; in 1930 the rate was 5.06, and in 1931, 5.36. On the other hand the 1938 injury rate per million train-miles—33.4—was the lowest in the past 10 years, comparing with 1937's 40.0 and 1930's 45.7.

The 293 persons killed in 1938 train accidents represents a decrease of 5.48 per cent from 1937's 310, while the 5,682 train accidents reported last year were 32.45 per cent less than the 8,412 reported in 1937. (Accidents resulting from the movement of trains, locomotives or cars are called "train" accidents if railway property is damaged in excess of \$150; accidents arising in connection with the operation of trains, locomotives, or cars that result in reportable casualties to persons, but not in damage to equipment or other railway property in excess of \$150, including the cost of clearing the wreck, are called "train-service" accidents.)

Train-service accidents in 1938 resulted in the death of 3,996 persons, principally trespassers and persons at grade crossings. Meanwhile, 14,429 persons were injured in last year's train-service accidents. Both of these totals are less than those for any other year since 1930. The total of 1938 fatalities in non-train accidents was 210, smaller than that for any of the past 10 years except 1933, which, the Bulletin's introductory comments recall, was a year "of very low industrial activity."

A chart showing the relative importance of various classes of persons in the 1938 fatalities from train and train-service accidents indicates that trespassers constituted 51.97 per cent; persons at grade crossings, 33.92 per cent; employees on duty, 8.28 per cent; and passengers on trains, 1.61 per cent. Of the injured, employees on duty constituted 41.03 per cent; persons at grade crossings, 24.94 per cent; passengers on trains, 14.66 per cent; and trespassers, 13.51 per cent. In the latter connection another chart shows that 54.6 per cent of the 1938 casualties to trespassers were fatal, whereas but 6.3 per cent of the casualties to employees and 3.4 per cent of the injuries to passengers on trains resulted in death.

Casualties to Passengers

Discussing casualties to passengers, the Bulletin's introductory comments note that 1938's 78 passenger fatalities exceeded the number reported in any other year since 1929, although the number of passengers injured last year was less than in both 1936 and 1937. "The principal cause for the increase in passenger fatalities in

1938," the Bulletin says, "is found in the increased number resulting from train accidents, 52 in 1938 as compared with but three in 1937." Forty-eight, or 92 per cent of last year's passenger fatalities in train accidents occurred as a result of two accidents, namely "one derailment due to the destruction of a bridge by flood waters, which caused 40 fatalities to passengers, and one collision due to the opening of a switch directly in front of an approaching train, which resulted in the death of eight passengers." These accidents, the comment adds, "also contributed to the highest fatality rate per billion passenger-miles in the period 1930-38." Twenty-three passengers were killed last year in train-service accidents, 10 of them while getting on or off cars. The latter was also one of the principal causes of 1938 injuries to passengers, although "362 passengers were injured in sudden starts, perks, or stops of trains."

The number of employees on duty killed in accidents of all kinds in 1938 totaled 479, as compared with 666 in 1937. As noted at the outset this is the best employee fatality showing on record, being at the rate of 0.21 per million man-hours. Employee injuries totaled 16,163, or 7.17 per million man-hours, as compared with 1937's 23,629 or 8.07 per million man-hours.

The Bulletin also continues the practice of compiling specially-reported data on employee injuries resulting in one to three days disability. (The official requirement is that an accident is reportable if it results in disability in excess of three days.) The special data show that there were last year 9,907 injuries to employees whose resulting disabilities were not such as to make the accidents "reportable." Also, beginning with 1937, railroads have been required to report on injuries to employees where there was no disability beyond the day or shift in which the accident occurred. The 1938 returns in the latter connection brought reports of 1,463 employees who sustained fractures and 80 who suffered amputations but lost no time beyond the day or shift because of the injuries.

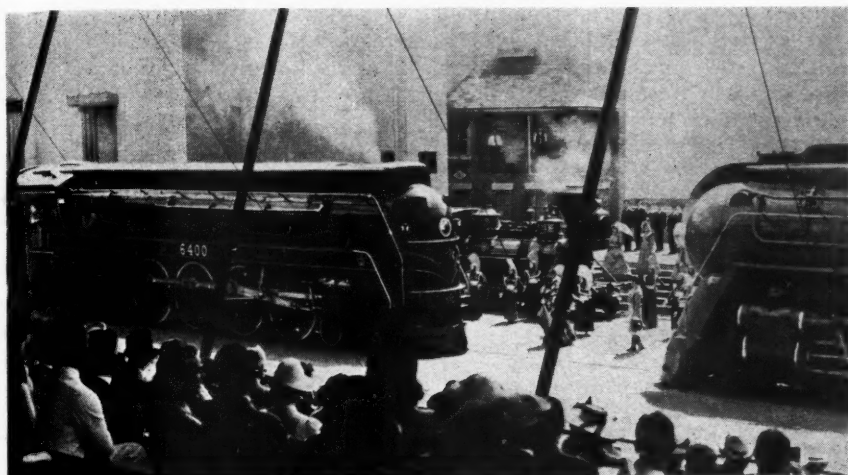
Trespasser and Grade Crossing Casualties

The discussion of casualties to trespassers notes that the railways are "making efforts to improve the situation through safety campaigns and the ejection of trespassers;" and it goes on to suggest that "the enactment of uniform anti-trespassing laws and their strict enforcement undoubtedly would constitute a long step toward the solution of this difficult problem in accident prevention." A chart showing the trend in trespasser fatalities by age groups records a 1938 increase in the relative importance of the 14-to-21-years-of-age group.

Last year's accidents at grade crossings brought death to 1,517 persons and injuries to 4,018, a reduction of 358 fatalities and 1,118 injuries under 1937. Automobiles were involved in 88 per cent of the crossing accidents; and 1,198 out of the total of 3,437 accidents that caused casualties occurred at protected crossings. Further discussion of 1938 crossing accidents is based on the previous Bureau of Statistics analysis which was reviewed in the *Railway Age* of June 10, page 994. Remaining sections of the Bulletin's comments are devoted to a discussion of train accidents, including a review of data on accidents classified according to the speed of the train.

THE SWEDISH STATE RAILWAYS earned a net income after fixed charges of \$1,525,000 during the first half of 1939, compared with \$425,000 during the corresponding half of 1938. Gross revenues during the period totaled \$30,750,000, an increase of more than \$1,000,000 over the previous year's first half.

Railroads' Fair Show Evaluated



Courtesy Canadian National

Million and a quarter paid admission at 671 performances of opera-pageant; grossed \$346,000

"RAILROADS on Parade," opera-pageant presented at the New York World's Fair by the member roads of the Eastern Railroad Presidents Conference, gave its last performance for 1939 on October 30. Its records reveal that a total of 1,281,349 persons paid from 25 cents to 75 cents to watch the hour-long spectacle of music, drama, ballet and railroading since its opening on April 30. Its cast of 200 actors gave a total of 671 performances during the six-month run and its box-office took in a gross of \$346,000.

Inasmuch as "Railroads on Parade" was one of the few industrial exhibits at the fair to make an admission charge (made necessary by the costs of a staff of 348 and the upkeep of its "props," which included 50 horses, 4 oxen, 4 mules and 20 locomotives under steam, as were described in the *Railway Age* of June 10, page 985), this drawing power is all the more remarkable. As was expected in some quarters, its chief advertisement came through "word of mouth." This, coupled with an intensified publicity campaign by the railroads from the middle of the summer on, brought crowds in greater and greater numbers as the season progressed, with the result that the show grossed \$100,000 in its last month, whereas it took 4½ months to gross its first \$200,000. Further, while daily attendance at the opera-pageant averaged but 2 to 2.5 per cent of the total numbers passing through the fair's turnstiles during May, by September its audience leaped to over 12.8 per cent of the world exposition's entire "gate." During each of the three weekends of October 7, 14 and 21 attendance at the show averaged 45,000, necessitating five instead of the scheduled four performances daily, and presenting a severe test to the capacity of the amphitheatre which was designed to seat 4,000 at a throw.

"Railroads on Parade" drew the plaudits of the press not only as an outstanding industrial exhibit for the education of the public in the ways of a major business but as well on its merits as bona fide light-opera,—as "good theatre." Musical score, costumes, scenery and action were selected from the best talent the world of the theatre had to offer. "Variety," outstanding publication of the entertainment field, called it the "Barnum of industrial exhibits," and, in another place, gave praise by indirection in calling Billy Rose's "Aquacade" "the 'Railroads on Parade' of the Amusement Area."

National leaders in every walk of life saw the show and made known their admiration in letters to Edward

Hungerford, its producer. While these show extraordinary variety in taste, one note is common to nearly all. That is, that "Railroads on Parade," apart from its success as a theatrical performance on a grand scale, "sold" the railroad industry to its spectators. An outstanding architect wrote: "Rest assured I will preach the gospel of railroads to the best of my ability;" editor of a metropolitan daily: "I have told my colleagues that they are not educated until they have seen your show" (the writer also "ordered" his wife and son to go see it); an industrialist: "My net impression is that no one can go to your exhibit without feeling more friendly and appreciative toward the railroads;" and a sales executive: "This presentation will create considerable good will for the railroad industry."

The story is told that Isaac Van Grove, conductor of music at "Railroads on Parade" saw a strange musician in his sound-room orchestra. Upon inquiry, the newcomer said that one of the regular players had paid him \$8 to take his place for the day. "And where is he?" asked Mr. Van Grove. "Oh, he's out in front in the audience, watching the show."



Triumvirate of "Railroads on Parade." Edward Hungerford, Author and Producer, Kurt Weill, Composer, and Charles Alan, Pageant Director

Arthur Curtiss James Retires

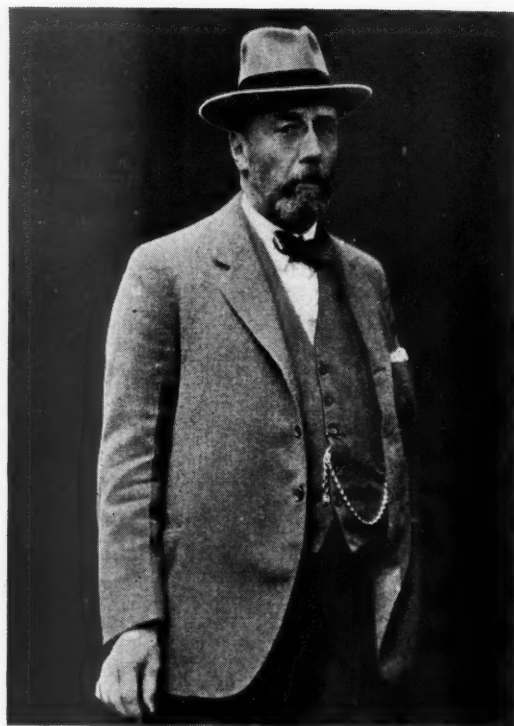
Greatest railroad financier
of last decade "desires to
lighten the burden of
business activities"

ARTHUR CURTISS JAMES tendered his resignation as chairman of the board and a director of the Western Pacific on November 4 after having served in those capacities for more than 13 years. The board reluctantly accepted the resignation, effective December 31, 1939. In taking this action Mr. James explained that this was merely one of a series of such resignations from other companies in which he is deeply interested owing to his desire to lighten the burden of business activities, adding that he has not disposed of any part of his investment in the Western Pacific, and has no intention of doing so. At the present time Mr. James is also a member of the executive committee and a director of the Great Northern, the Chicago, Burlington & Quincy, and the Colorado & Southern, a director of the Phelps Dodge Corporation, and a director or trustee of numerous financial and education institutions.

Mr. James' career has been the most colorful since that of James J. Hill and is one that reflects a heritage of the latter's objectives. Mr. James was born in New York on June 1, 1867, and matured while his father was closely associated with Mr. Hill in the development of the West. It was probably this early influence more than anything else that caused him to become interested in the development of the West as an investment for the future rather than for speculation.

After graduation from Amherst College in 1889 with two degrees, A.B. and A.M., he became associated with the Phelps Dodge Corporation, in which his father held a substantial interest. His entrance into the railroad field occurred in 1901 when the railroad properties of Phelps Dodge were merged to form the El Paso & Southwestern, with Mr. James as first vice-president. These railroads had been built to serve Phelps Dodge copper mines, but as coal traffic to smelters increased, followed by the development of the surrounding territory, Mr. James visioned a much greater goal for this 229-mile road that then extended from Deming, N. M., to Benson, Ariz.—a transcontinental railroad to California.

This dream was brought closer to reality during later years by the extension of the railroad northward to Tatum where it connected with the Chicago, Rock Island & Pacific, and by Mr. James becoming a member of the executive committee and a director of the latter road. His intention to extend the El Paso & Southwestern to California was abandoned in 1924 when the Southern Pacific, in order to keep the El Paso from



Arthur Curtiss James

reaching Los Angeles, purchased the El Paso for \$28,000,000 of Southern Pacific capital stock and \$29,400,000 of bonds. This transaction made Mr. James the largest individual stockholder in the Southern Pacific. In the meantime he had inherited his father's interests in the Great Northern, the Northern Pacific and the Chicago, Burlington & Quincy.

As a result of the sale of the El Paso, Mr. James was able to acquire a substantial interest in the Western Pacific in 1926, and again undertake the development of a transcontinental line to California. At the time of this purchase he said, "For many years I have been a holder of and believer in the Great Northern, the Northern Pacific, the Burlington, the Southern Pacific and other western railroads, and now have added to my railroad interests a holding of Western Pacific, having entire confidence in the ability of the territory served by the Western Pacific to support an independent competing system, which shall have for its sole objective the up-building of the territory served by it." In furtherance of his objective of increasing the importance of the Western Pacific as a transcontinental line, the original outlet with the Denver & Rio Grande Western at Salt Lake was augmented in November, 1931, when he drove the last spike linking the extensions of the Great Northern and the Western Pacific at Bieber, Cal.

His deep interest in the Western Pacific was revealed in 1927 when a six-year program of improvement of the main line between Salt Lake City, Utah, and Oakland, Cal., was undertaken. (*Railway Age*, June 22, 1929.) This program was independent of a plan to build or acquire 270 miles of feeder lines in California. While this program had for its objective the development of freight traffic, it also made possible the establishment of competitive through passenger service, which materialized last summer when the Exposition Flyer was placed in operation between Chicago and San Francisco on a fast schedule by the Burlington, the Denver & Rio Grande Western and the Western Pacific.

Mr. James' success has been due in no small measure
(Continued on page 753)

Renovated Rest Rooms Draw Patrons' Appreciation

Erie rehabilitates facilities in Jersey City station, using modern wall and floor-finishing materials, fixtures and finishings



As Renovated, the Women's Rest Room Has a Restful Club-Like Atmosphere

WHEN the Erie recently undertook the renovation of the toilet and rest-room facilities in its station at Jersey City, N. J., it found that, with the aid of modern wall-finishing materials, floor coverings, fixtures and furnishings, it was possible, with only a modest expenditure, to achieve an appearance that is all that can be asked for by any standard of measurement. Today, after undergoing complete rehabilitation, the toilet and rest room facilities in this station present a highly attractive appearance and have an aspect of cheerful cleanliness that has drawn many expressions of appreciation or of a complimentary nature from the railroad's patrons. The materials that were used to advantage in this work included decorative and plain asbestos Flexboard for walls and ceilings, marbleized asbestos wainscoting board, ceramic and asphalt tile for the floors, and walnut Texboard for the walls in the ladies' rest room.

The Jersey City station of the Erie is situated on the west shore of the Hudson river, directly opposite New York City, where it serves as the eastern terminus of this company's Chicago-New York main line as well as of a number of branch lines serving suburban communities in New Jersey and New York. Hence, it is in intensive use by both through passengers and commuters, and serves primarily as a point of transfer between Erie trains and ferry boats or tunnel trains of the Hudson & Manhattan railroad. The present station was built in 1888, and is of frame construction, with a foundation consisting of brick walls carried on timber piles.

From time to time the public toilet facilities, which are located on the main floor adjacent to the waiting room, have been renovated or renewed in whole or in part, the last time being in 1916. By 1938, these facilities had again reached such a state of deterioration that it became necessary to give serious consideration to

the question of their renewal, especially in view of the approaching New York World's Fair. At this time, the existing interior finish of the toilet rooms consisted of wood walls and ceiling embodying beaded tongue-and-groove construction and concrete floors covered with asphalt blocks. The plumbing fixtures were likewise of a type that had been outmoded, while the furnishings in the ladies rest room, which consisted of over-stuffed arm chairs and sofas, were badly worn. To remedy the situation it was decided to renew the toilet and rest room facilities in their entirety with the latest types of fixtures and furnishings, and to replace the existing wall, ceiling and floor coverings with materials carefully chosen to secure the desired harmony of color schemes and the proper decorative effects.

Layouts Revised

Coincident with the improvement program, certain changes, mostly of a minor nature, were made in the floor areas occupied by the toilet facilities, with more extensive revisions being made in the arrangement of the respective facilities, particularly in the men's room. Originally the latter room was L-shaped in plan, the main portion being 23 ft. by 35 ft. in dimensions, and embodying a smoking room, which occupied a space about 22 ft. square. In the revised layout the leg of the L has been closed off and this space, 9 ft. by 15 ft. in plan, set aside as a possible future addition to the women's room. Also the smoking room has been done away with entirely, and the space that it occupied has been devoted to toilet facilities, which are arranged as shown on the accompanying floor plan.

In the original layout, the facilities for women occupied a total area slightly more than 30 ft. square, of which a space about 20 ft. wide and 30 ft. long was devoted to

the rest room, while the remainder of the space was occupied by toilet facilities. In the renovation program neither the size nor the shape of the total space or of the rest room was altered materially, but a portion of that part of the space occupied by toilet facilities was set aside as a powder room, this space being approximately 9 ft. by 10 ft. in plan.

In the renovation program the walls in the entire men's room and in the toilet section of the women's room were covered with green decorative asbestos Flexboard above a marbleized asbestos wainscoting 54 in. high, the background color of the latter being characterized as "verde antique" (dark green). The wainscots are surmounted by black asbestos caps, while the base strips (6 in. high) are of black ceramic tile. Gray Flexboard is used as the ceiling covering, and here as well as on the side walls, adjacent sheets of the covering material are joined with aluminum molding strips. The floors are of black and white ceramic tile laid in a wicker pattern.

Women's Rest Room

Treatment accorded the women's rest room in the renovation program was designed to impart a restful club-like atmosphere. Here the walls are covered for their entire height with walnut Texboard, which consists of a Celotex base covered with genuine walnut veneer with a natural finish. This material was supplied in planks 12 in. wide, which were placed vertically with beveled shiplap joints. The walls in this room embody a brown ceramic tile base and a cornice molding of walnut wood at the top. The ceiling, as well as the ceiling beams and a number of exposed supporting columns, are covered with decorative Flexboard in a buff color, the aluminum molding strips being used here also. Asphalt tile in a checkered pattern is used for the floor covering, the contrasting colors being dark brown and a light tan.

Not the least important aspect of the ladies rest room are the new furnishings that were installed as a part of the renovation program. These are of the modernistic type and include comfortable leather-upholstered arm chairs and a sofa, all of which have chromium-plated tubular frames and legs. Red is the predominating color in these furnishings, although a warm brown is used to some extent. Other items of furniture in the women's rest room include several small tables with chromium-plated legs and a number of stand-type metal ash trays, the color scheme for these being black with a chromium trim. A final touch is imparted to the room by the Venetian blinds with which the windows are equipped.



This View of a Portion of the Men's Room Is Illustrative of the General Character of the Improved Facilities

As a part of the project, all the existing windows in both rooms were replaced with double-hung sash glazed with Florentine glass.

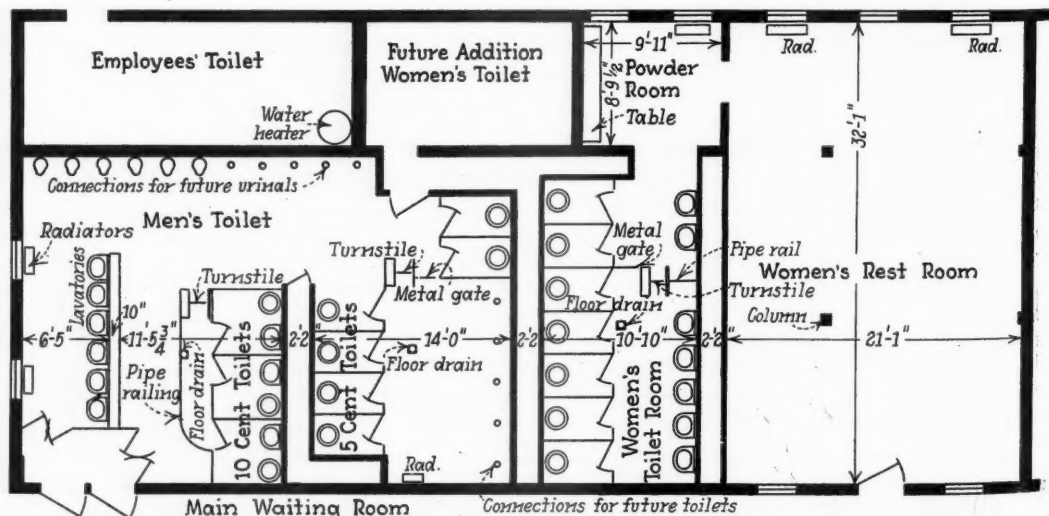
The powder room that has been incorporated in the facilities for women comprises something of an innovation. It is provided for the convenience of women patrons when applying make-up and embodies a bench at table height along one side, four wall mirrors in chromium-plated frames and a number of stools. In keeping with the general decorative scheme, the bench is finished on top in green Flexboard and is supported on chromium-plated metal legs.

Plumbing Fixtures

The plumbing fixtures and other appurtenances are of the latest and most modern type. The water closets are of vitreous china and embody flush valves and "saniblack" seats. Lavatories are of the pedestal type and are equipped with self-closing chromium-plated faucets and drains of the "pop-up" type. Mounted on the wall above each lavatory are a glass soap dispenser and a mirror in a chromium-plated frame. The urinals in the men's room, of which there are six, with connections provided for six more, are of the "Madstone" pedestal type.

The facilities in the men's room include four five-cent

Floor Plan of the Renovated Toilet Facilities in the Erie's Jersey City Station

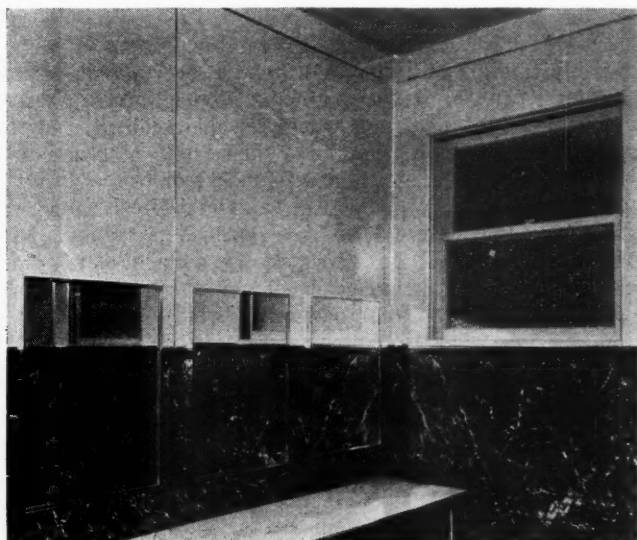


and three ten-cent pay toilets, each of the latter units including a lavatory and mirror. Sufficient space is available for the installation of four additional five-cent toilets if need for them should develop. Each of the groups of toilets is reached by means of a turnstile of the three-arm space-saving type. A similar turnstile in the women's room sets off a group of five pay toilets. All toilet partitions are of the metal flush type with chromium-plated trim, these partitions being painted black in the men's room and green in the women's room.

All lighting fixtures are of the ceiling type, embodying frosted glass globes with chromium-plated bases, and are controlled by individual switches. For purposes of ventilation each of the rooms is provided with air intakes at strategic points, which are covered with screens or grilles, depending on the location, and which are connected by means of metal ducts with a blower placed on the roof of the station. Both rooms are also provided with concealed sprinkling systems embodying chromium-plated fittings.

Construction Details

As a part of the improvement program, the existing floor-supporting structure under the two rooms was removed and replaced with 12-in. by 12-in. stringers, 4-in.



A Corner of the Powder Room Provided for the Convenience of Women Patrons

by 12-in. joists, and a sub-floor of 2-in. planks, all of creosoted yellow pine. In the toilet rooms the sub-floor was covered with a 4-in. reinforced concrete slab, which was overlaid with a 1½-in. cement bed course for receiving the tile floor.

Since the women's rest room is floored with asphalt tile, it was necessary to provide a somewhat different type of base than that used in the toilet rooms. Here the new two-inch timber sub-floor was first covered with a layer of plain asbestos paper, over which were applied, in succession, a layer of asphalt-saturated felt, a course of diamond wire mesh, and a leveling course of cement, sand and fibrated asphalt. Over the latter course the wearing surface was laid in tile cement.

In the renewal of the walls, the existing coverings were removed and ⅞-in. sheathing was nailed directly to the existing studding, the new materials being applied over this sheathing. In the ceiling areas the new Flexboard covering was fastened to 2-in. by 4-in. hangers that were nailed to the existing joists.

Other work undertaken in the Erie's Jersey City station coincident with the renovation of the toilet facilities included the replacement of the wall and ceiling coverings in the station barber shop with Flexboard, using decorative green for the walls and gray for the ceiling. Here also the aluminum molding strips were used for joining adjacent strips of the Flexboard. Also the windows in the barber shop were equipped with Venetian blinds and the lighting fixtures were renewed with units similar to those placed in the rest rooms. In addition the interior of the station was painted, a new newsstand was constructed in the waiting room, and certain other repair work was carried out, the general purpose being to prepare the station for handling World's Fair business.

This renovation work was carried out under the general direction of J. C. Patterson, chief engineer maintenance of way of the Erie at Cleveland, Ohio, and I. H. Schram, engineer maintenance of way of the Eastern district at Jersey City, and under the direct supervision of F. C. Kronauer, division engineer of the Terminal division, also at Jersey City.

Arthur Curtiss James Retires

(Continued from page 750)

to the characteristic of giving all credit for accomplishment to his associates. As a directing officer, he has gained the reputation of selecting men who can perform their duties without his constant supervision and direction.

Another outstanding characteristic of Mr. James, and one that has played an important part in his career, has been his foresightedness. For many years he has been an advocate of the speeding up of passenger service, and in keeping with this vision, has demanded fast, and often record runs, while traveling 50,000 miles a year. Although he always remained in the background, he was a factor in the development of lightweight, high-speed trains. As early as 1933, before the first lightweight train had been ordered, his vision was expressed in a personal letter to D. A. Steel, associate editor of the *Railway Age*, in which he said, "It is my personal belief that this Fair (Century of Progress Exposition at Chicago) will be a splendid eye-opener to some railroad men, particularly along the lines of reducing weights of all kinds of equipment. The trend is evidently in that direction and the dead weight per passenger on the Royal Scot is just about half what it is on first-class American trains. The Pullman Company evidently is alive to this situation and its car of light weight and streamline design is the beginning of a radical change in our ideas in this country." A few months later the Burlington ordered the first of its nine Zephyrs.

While Mr. James has had a large financial interest in railroads, it has not interfered with his primary motive of developing the west. Even though he predicted the depression to a month, he would not dispose of his holdings in Western Pacific at a profit in 1930 for, as he said, selling would be directly contrary to his reason for buying in the first place. At that time he was the largest stockholder in the Western Pacific, the Southern Pacific, and the Great Northern.

He proudly calls himself a capitalist, and delights in refuting the notion that "absentee owners" are interested only in dividends. He has taken a particular interest in employee relationships and has done much to improve working conditions. In addition to being known as a financier, he is recognized as one of the country's outstanding philanthropists.

What Is the Railroad Capacity?

National shippers' association considers problems of car supply and possibility of efficient handling of prospective heavy traffic

AN increase in freight traffic of 18.4 per cent, or nearly a million cars, is to be expected during the last quarter of 1939, according to an estimate presented at the third annual convention of the National Association of Shippers' Regional Advisory Boards at the Palmer House, Chicago, on October 31 and November 1. The problems of car supply and other service involved in this markedly increased movement and the methods whereby shippers could assist in meeting this enlarged demand for transportation were discussed by the board members and railway executives in the informal, friendly and co-operative spirit that characterizes the regional advisory board meetings.

President Charles Donley, traffic manager, U. S. Pottery Association, reminded those present that the regional advisory boards were formed to meet an emergency situation and stated that they have amply justified their continuance in the intervening years by the manner in which they are meeting the present emergency. "The advisory boards," he said, "with their 16,000 members representing all branches of industry, and the trained personnel of their committees, have a peculiar fitness for assisting the railroads in meeting the present situation, both by improving the efficiency of their shipping and by giving the railways forecasts of what may be expected in the way of car loadings. If additional forecasts are required for shorter periods, the machinery is available for making them."

What the Boards are Doing

In a resume of the activities of the regional boards during the last year, Secretary A. W. Vogtle, manager, traffic and sales, DeBardeleben Coal Corporation, Birmingham, Ala., stated that attendance of industrial representatives at the meetings was generally on the increase. In commenting on the accuracy of the forecasts, which has been maintained despite rapidly changing conditions, Mr. Vogtle said: "It is the consensus of opinion among the boards that the present increase in traffic is not caused solely by war conditions. A nation may stop buying, but it cannot stop needing, and the large purchases recently made by the railways have also had their effect in increasing business." Mr. Vogtle also outlined the efforts of the boards in procuring transportation legislation and expressed their unanimous opposition to government ownership of the railways. They are also doing much in procuring heavier loading and in claim prevention. "The advisory boards are reacting in a sane manner to the present crisis," he concluded, "and there is little doubt now but that the railroads can meet the transportation demand adequately. The events of the last few weeks have thrown into bold relief the innate soundness of the railroad plant."

Are the Railroads Ready?

M. J. Gormley, executive assistant, A. A. R., led the discussion on the adequacy of railroad service and equipment, which was participated in by R. C. Ross, vice-president, J. T. Ryerson & Son, Chicago, and Gordon

Tongue, secretary, Superior Portland Cement, Inc., Seattle, Wash. Mr. Gormley presented a number of charts in support of his contention that the railways are ready to handle the traffic which may be offered to them. "It would not have been possible," Mr. Gormley said, "for the railways to have done their job in the last two months, which witnessed the heaviest sudden increase in traffic in railway history, without the co-operation of the regional advisory boards. During that time, not a single complaint has been made to the bureau of service of the I. C. C." He presented an analysis of the situation that prevailed in 1918, when, because of chaotic conditions in the ordering and disposition of government freight, 200,000 cars were held under load that could not be moved, resulting in the entire transportation machine being thrown out of gear. He pointed out that the difficulty arose through a hysterical attempt on the part of certain governmental agencies to break down normal operations and handle everything as an emergency and the further fact that freight cars were widely used for storage purposes, being loaded with materials long before they could be accepted at destination. With G. F. Hichborn, general traffic manager, U. S. Rubber Company, Mr. Gormley described the emergency export board that has been formed and that is now ready for instant action in the event it is needed, and he also told of conferences with war department officers and others that have materially clarified the situation so far as rail transportation in the event of war is concerned. Agreements have been reached, he said, which should prevent a repetition of the mistakes of 1918.

Legislation

Judge R. V. Fletcher, vice-president, A. A. R., asked that the association consider requesting the postponement of the hearings which would be involved under Senate Resolution 146, covering the handling of merchandise traffic by railways, forwarding companies and express companies. He pointed out that, at this time, there were two committees considering the question, which was also being dealt with exhaustively before the Interstate Commerce Commission. Such an investigation, the judge said, would be largely an operating matter and, with tremendous increases in traffic multiplying operating problems on every railroad, operating officers can ill be spared for extended trips to Washington at this time. In support of Mr. Fletcher's request, A. F. Cleveland, vice-president, A. A. R., stated that the proposed Senate action would confuse present investigations, which, when completed, should satisfy all shippers. He warned that the Senate resolution might well result in the nationalization of less-than-carload traffic on a pooled basis, and that it would be an easy and inevitable step from there to the nationalization of carload traffic and thence to government ownership. After considerable discussion, the association eventually voted to adopt a resolution calling for the postponement of the investigation provided in Senate Resolution 146.

Judge Fletcher then outlined the progress of Senate bill No. 2009, maintaining that, after the passage of this bill in the Senate, it was entirely rewritten in the House until it was quite a different bill based on a different premise, in that the Senate bill provided jointly for all forms of transportation, whereas the House bill attempts to keep the legislation entirely separate as between competing carriers. An attempt to iron out the differences by means of joint conferences is about to get under way, and, Judge Fletcher predicted—the bill is likely to be passed at the next session of Congress if an accurate summation of the House and Senate provisions can be made. Judge Fletcher then described certain objectionable features of the amended bill, including those amendments which, he said, provide for a break-down of the entire export rate structure; kill all consolidations, by reason of their provisions for the displacement of employees, and the Wadsworth amendment, which, he claims, is thoroughly unsound. The judge asked that the association consider opposing these features of the bill. After several drafts of such a resolution had been prepared, the association finally passed a draft recommending to the member boards that they oppose these features of the bill outlined by Judge Fletcher, but not going on record as favoring the passage of S-2009, leaving that entirely to the discretion of the individual boards.

A. H. Brown, traffic manager of the Chamber of Commerce of Cleveland, Ohio, in a talk on legislative matters, stated that while he agreed that the investigation should be postponed for the present, he considered that Senate Resolution 146 was the result of something that the railroads could have avoided in the past and should avoid in the future. "The Co-ordinator's recommendations were submitted to the railways for review," Mr. Brown said, "and many of these suggestions seemed excellent to the shippers. The railroads then took these recommendations under advisement and eventually announced that they wouldn't work. It is possible that they know what they are talking about, but why the mystery? The railroads have never issued a complete, thorough and authoritative statement showing why Mr. Eastman's recommendations won't work, and this, it seems to me, is at the root of the present l. c. l. investigations."

Efficient Car Utilization

A discussion on shippers' and receivers' parts in promoting efficient car utilization was participated in by L. D. Owen, vice-president, Westland Warehouses, Los Angeles, Calif.; E. C. Jepson, general traffic manager, Wheeling Steel Corporation, Wheeling, W. Va., and C. A. Lahey, vice-president, Quaker Oats Company, Chicago. Mr. Owen described the activities of the committee on reducing railway operating costs which has been doing effective work for the Pacific board, and suggested that the railroads might well offer a lower freight rate as an inducement to shippers to load cars to their maximum. He also suggested that, if a car is valuable enough to the railways that demurrage is assessed after 48 hours free time, the shipper should be given some credit or discount for unloading it before the free time expires. He also cited the good results obtained in the territory of the Pacific board in educating shippers to the cost of special switching movements and spotting of cars, much of which would be unnecessary with more careful planning by shippers, he claimed.

Mr. Jepson described how a special car efficiency committee appointed by the Allegheny board had assisted materially in relieving a tight car situation, and gave

specific instances of how many shippers in the Pittsburgh district had been able to increase their loading. Mr. Lahey stated that the railways have made good on their promises to shippers during times of highly unusual traffic increases and have proved in the present emergency that they are worthy of all the co-operation that shippers can give them.

In his reply on behalf of the railroads, W. C. Kendall, chairman, Car Service division, A. A. R., said that the shippers' advisory boards are to be commended for their co-operation and stressed the need for heavier loading of cars as a remedy for any possible car shortage. He stated that the capacity of the average freight car has increased about $3\frac{1}{2}$ tons in the last ten years, but that the load per car in this same period has increased only about one ton. "We have not made the loading progress that it was possible to make," Mr. Kendall said. "As a matter of fact, 40 commodities actually show decreases in tons per car during this period and there is no reason for this as all of these commodities are susceptible to much heavier loading." Among the commodities showing decreases during the period, Mr. Kendall cited plaster, 3 tons per car; cement, 4.7 tons; furniture, 1.6 tons; and glass, 3.9 tons. In the case of cement, which averaged 34.7 tons per car in 1938, Mr. Kendall claimed that the loading could easily be increased to an average of 40 tons per car, which would save 60,000 cars annually. Heavier loading of flour and several other commodities would effect similar savings. "Economies to the railways," Mr. Kendall concluded, "are economies in the shippers' business and practices such as heavier loading that help the railroads are also helpful to the shippers' own businesses."

Activities of Advisory Boards

A round table discussion of the proper procedure for advisory boards and possible expanded activities of such boards was participated in by traffic men from many different regions, including A. M. Stephens, traffic manager, Standard Oil Company, Louisville, Ky.; C. J. Fagg, traffic manager, Chamber of Commerce, Newark, N. J.; C. H. Conaway, secretary, Farmers Grain Dealers Association, Fargo, N. D.; W. B. Shepherd, assistant general traffic manager, Aluminum Company, Pittsburgh; G. H. Shafer, general traffic manager, General Timber Service, St. Paul, Minn.; L. G. Hulst, traffic manager, United Engineering & Foundry, Pittsburgh, and M. A. Keith, general traffic manager, International Stacey Company, Columbus, Ohio. The latter speaker entered a protest against the treatment received by the industrial traffic managers at the hands of various rate committees and complained of a lack of attention and even outright rudeness on the part of the railway rate men while shippers were presenting their cases. Several of the traffic men rallied to the defense of the rate committees, but all of them were in agreement that the present procedure in the making of rates is much too slow and cumbersome and in need of reform.

A. F. McSweeney, superintendent of freight transportation, Pennsylvania, Chicago, described the functions of the railway contact committees as they are set up by the various boards, and recommended that much greater use of such committees should be made by shippers generally, to the benefit of the transportation industry. The contact committees, Mr. McSweeney said, are fully prepared to take care of the shippers' needs if those wants are made known to them, and are capable of being of much greater use than at present if shippers can be educated to refer more subjects to them. W. A. Schoenfeld, dean, Oregon State College, Corvallis, Ore., described the organization

and functions of the agricultural council which has been set up as a part of the Pacific Northwest board, and indicated that it had been of material assistance to the shippers and to the railways in solving mutual problems arising out of the proper and efficient transportation of agricultural products.

Other Subjects

B. T. Jones, agent, Central Freight Association, described the progress of a committee which is working on the simplification of railway freight tariffs, and announced that this committee would welcome any suggestions from members of the advisory boards or other shippers as to methods of simplifying tariffs. The activities in connection with the Perfect Shipping and Car Handling Month and the benefits derived therefrom were outlined by T. C. Burwell, vice-president, A. E. Staley Manufacturing Company, Decatur, Ill., and O. W. Galloway, traffic manager, Pillsbury Flour Mills, Minneapolis, from the shippers' point of view and by C. H. Dietrich, executive vice-chairman, Freight Claim division, A. A. R., for the railways. According to these men, the "perfect month" has amply justified the time and labor spent upon it in past years, and Mr. Dietrich described in detail the expanded activities that will mark the perfect shipping month in 1940, as a result of an increased appropriation allotted by the A. A. R. following the success of such months in previous years.

L. P. Siddons, traffic manager, Holly Sugar Corporation, Colorado Springs, Colo., expressed the shippers' need for a liberalization of the demurrage rules and G. C. Randall, chairman, general committee, operating-transportation division, A. A. R., outlined in reply the steps that are being taken by that body to meet shippers' wishes in that regard. The matter of free dunnage was also discussed at considerable length and, while this is a matter that borders on rate questions, which the boards do not consider, it was decided that dunnage was a proper subject for discussion at the board meetings. The recommendation was also made by several shippers that more railway rate men be urged to attend the board meetings, not for the purpose of answering questions as to individual rates or otherwise discussing rate matters, but to gain a broader insight into the shippers' problems and needs which would be of assistance to them in rate-making.

Mr. Cleveland Sums Up

A. F. Cleveland, vice-president, A. A. R., summed up the meeting on behalf of the railways. In defense of the rate committees he explained that they conducted mutual conferences—not trials. As to the complaint of slowness in ratemaking, Mr. Cleveland stated that the present rate procedure is the result of a century of experience, until today rate matters are handled more promptly than ever before. "The railways," he continued, "are continuing their efforts to get speedier action in rate matters, but there are certain inherent factors of delay that must be considered. Each line involved has equal rights in saying what the rates will be and there are also frequently highly diverging opinions among the shippers on the subject. Getting concurrence from the lines involved and ironing out differences with shippers is a slow process, but it is a necessary process if the best interests of the shippers are to be adequately protected.

"Railway traffic men are by no means perfect, but they are striving to approach perfection. For example, there is now in progress an effort to find out what shippers want by means of the merchandise and classification

committees, which have traveled throughout the country, conferring with industrial traffic men and others, and will shortly make recommendations based on their findings. It must be understood that these committees were instructed to do what seemed best for the industry and not to be bound by precedent or any other consideration except efficiency in rendering their report and in recommending changes in present practices."

Officers Elected

The officers who have served the association since its inception in 1937 were re-elected for the coming year. They are President: Charles Donely, traffic manager, U. S. Potteries Association, Pittsburgh, Pa.; Vice-president: L. C. Newlands, president, Oregon Portland Cement Company, Portland, Ore.; Vice-president: L. M. McPherson, traffic manager, American Seating Company, Grand Rapids, Mich.; Secretary: A. W. Vogtle, manager traffic-sales, DeBardeleben Coal Corporation, Birmingham, Ala.

Traffic Clubs Favor Institute of Management

(Continued from page 741)

"concerning the proper basis for motor carrier rates. Some carriers and shippers think that rail and motor carriers are two groups furnishing the same kind of service and competing for the same business and that, therefore, their rates should be the same. Other carriers and shippers believe that each type of carrier is better fitted than the other for furnishing certain kinds of transportation, and that the rates of each type of carrier should reflect those advantages. Our regulation has not proceeded far enough to determine which, if either, of these contentions is the proper answer. In some cases involving the reasonableness of motor carrier rates, determination has been made with no expressed consideration of rail rates. In other cases, where the rates of one type of carrier have been attacked, an investigation of the rates of both types has been instituted."

John S. Burchmore, counsel for the National Industrial Traffic League, analyzed Senate bill 2009, which proposes to amend the Interstate Commerce Act by extending its application to additional types of carriers and modifies certain provisions of the Act. He warned against expecting too much of the measure because the final interpretation of its provisions by the federal court and the Interstate Commerce Commission may not bring about the anticipated radical changes in rulings that have been in existence for so many years.

Charles S. Dewey, former assistant secretary of the U. S. Treasury and former financial advisor to the Polish Government, told the convention that no basic reason exists for United States' participation in the European war. He warned against a bill prepared by Representative Andrew J. May, which would set up a war resources administration over which the President would preside, which would create an emergency agency to coordinate the performance of all of the nation's economic functions, and which would organize such other administrations for the coordination of various phases of national economy as are "required by circumstances."

Raymond J. Kelly, national commander of the American Legion, who spoke at the dinner, stressed the need for adequate national transportation in times of emergency. He felt satisfied that the country has a "good back-log for national defense purposes."

Communications and Books . . .

Says "It Can't Be Done" Is Railroads' Motto

TO THE EDITOR:

EAST ORANGE, N. J.

On receiving a copy of the August 26 issue of the "Age," I chanced upon your interesting discussion in "What Will the Traffic Bear? In it, I believe, you have uncovered, in a small way, a trait of the railroad industry, which trait along with others, is at the bottom of the railroads' problems today. In the light of some ten years contact with railroading in all of its phases. I have come to believe that the motto of that industry is "It can't be done!" Advances in the art, improvements in both product and plant have been almost forced upon the industry. There are, of course, exceptions; few in number, but outstanding in accomplishments.

Other industries foster research for all that it is worth, since improvements are founded in research, lots of it. For its size, railroading does practically none. They claim that it isn't practical. Well, what research is? Did they ever hear of applied research? Do they employ people of a calibre who can appreciate and apply the results of research? What other business heeds so little the suggestions of its customers? It takes an act of God to remedy some defects in service, which, even to a layman, are quite obvious. Why don't railroad officers see these defects and remedy them? The mere fact that a layman finds them elicits the "can't be done" answer from an officer.

Railroad men seem to think that they, and they alone, know or will ever know anything about railroading. They feel that one must be born into the industry, and that a college man, who has been trained to think, just *can't* become a railroader. Where would other industries be without trained thinkers at the helm? Experience alone doesn't make an executive, but the railroad industry seems to think so.

IT CAN BE DONE.

New Books . . .

Engineering Opportunities. Published by D. Appleton-Century Company, New York. 400 pages, illustrated. Price, \$3.

"Engineering Opportunities," edited by R. W. Clyne, is a non-technical survey of engineering activities in industry. It is intended to assist young men who contemplate entering the field of professional engineering, as well as engineering students who need advice on choosing the particular business in which to apply their technical training, and shows some of the opportunities

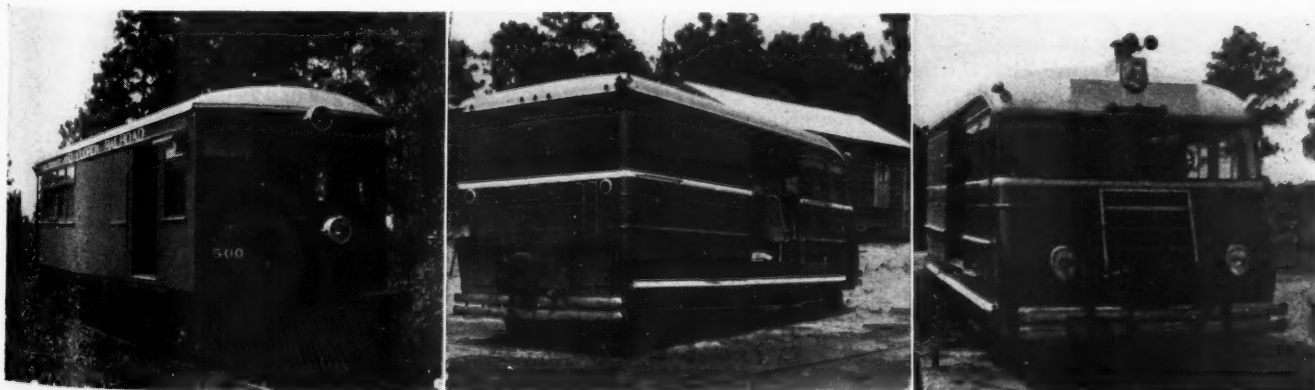
which exist today in such fields as the aluminum industry, Diesel power, electrical manufacturing, metallurgy, railway equipment, refrigeration and air conditioning, mechanical vibrations, etc. Each of the twenty-six chapters has been written by an engineer who endeavors to show the background of the industry in which he is an expert, the present condition of affairs, and the possibilities for the future. Among the authors are S. K. Colby, vice-president, Aluminum Company of America; James Shelby Thomas, president, Chrysler Institute of Engineering, Detroit, and Clarkson College of Technology, Potsdam, N. Y.; T. C. Johnson, General Electric Company, Schenectady, N. Y.; Edmund Q. Sylvester, research engineer, American Steel Foundries, and L. K. Sillcox, first vice-president, New York Air Brake Company.

Railroad Tie Decay, by C. J. Humphrey and C. Audrey Richards. 55 pages. 5½ in. by 9¼ in. Bound in flexible cloth. Published by the American Wood-Preservers' Association, 1427 Eye street, N. W., Washington, D. C. Price \$2.

This volume, which is intended to be used as a field book, is in part a reprinting of the book originally issued by the association in 1920, and which has been out of print for several years, containing a discussion of The Decay of Ties in Storage, by C. J. Humphrey, pathologist, United States Bureau of Plant Industry. To this has been added the more recent discussion of Defects in Crossties, Caused by Fungi, by C. Audrey Richards, pathologist, Division of Forest Pathology, Bureau of Plant Industry. Although the information contained in this volume is presented primarily for the benefit of those who produce and handle ties, it is equally applicable to structural timbers and represents the most complete and practical information in print for the use of railway tie and timber inspectors and those engineers who are confronted with problems that arise in connection with the handling and seasoning of ties and timbers.

The book tells how wood becomes infected; how fungi can be identified; and how to distinguish between harmless and harmful fungi. It describes the effects of infection; explains the conditions favorable to decay and those that tend to retard it; and shows the effects of molds and stains. It describes briefly, concisely and in non-technical language, 52 of the more common fungi that are likely to be found on hardwood and coniferous timbers in the United States. These descriptions are accompanied by 25 plates containing 118 illustrations, 12 of which are in color, of the fungi and their effect on wood. The various fungi are appraised with respect to their relative decay-producing power, and a simple key is included whereby each species can be identified in the field.

* * * *



The Alabama & Florida Is Motorizing Its Services. The Auto-Railer Shown in Right-Hand Photos Runs on Rail or Highway and Has a Capacity of 120 Tons on Steep Grades. The Rail Motor Car Shown at the Left Is Powered with an International Diesel Engine

NEWS

Can I. C. C. Veto Firing by RRs?

R. I. says it can't, lower court agrees, and now Supreme Court hears case

The question of whether the Interstate Commerce Commission can force a railroad to take care of displaced employees before it will authorize a merger was laid in the lap of the United States Supreme Court on November 6, when it heard oral argument in the case of the United States and the Interstate Commerce Commission versus the Chicago, Rock Island & Pacific. The case arose when the commission authorized the Rock Island to lease the properties of its wholly-owned Texas subsidiary, the Chicago, Rock Island & Gulf, with the express condition that the company would make certain provisions for those employees who would be discharged by the merger and also those who might be caused pecuniary loss because of the shifting of their jobs and place of work from Fort Worth, Texas, to Chicago. Details of the commission's labor provisions were given in the *Railway Age* of November 12, 1938, page 717.

Originally, Division 4 authorized the lease, but attached the above-mentioned conditions; the railroad appealed to the full commission which heard oral argument on the case and upheld Division 4 in a 6 to 4 decision in which some commissioners, including Commissioner Mahaffie, took the position that the commission had never been given the power by Congress to attach such conditions. The Rock Island then started suit in the United States District Court in Chicago, asking that the commission be enjoined from enforcing that part of the order requiring the acceptance of the labor conditions. The District Court found in favor of the railroad, holding that it should be permitted to merge but saying that the commission had no power to enforce such conditions. As a result, the commission appealed the case directly to the Supreme Court.

Appearing for the railroad was W. F. Peter, assistant general counsel, while the government and the Interstate Commerce Commission were represented by James B. Wilson, a member of the staff of the Solicitor-General. Mr. Wilson began his hour-long argument by briefly reviewing the case, pointing out that the only reason for the merger was to save money by the elimination of a duplicate accounting service which the two companies are now forced to maintain. As a result of the merger,

Lum and Abner to "Railroad" November 13

Lum and Abner, the pair of Arkansas storekeepers who appear on the Columbia Broadcasting System regularly each Monday, Wednesday and Friday evenings on a nationwide hook-up, will make the railroads a major topic for discussion on their program on November 13. Their Arkansas dialect will be heard at 7:15 (e. s. t.) and 6:16 (c. s. t.) and, through a rebroadcast, at 9:15 (r. m. t.) and 8:15 (p. c. t.)

he said, 49 employees of the Texas corporation would be discharged, while 20 would be transferred to Chicago to the Rock Island's general offices there.

The government counsel explained that the conditions attached by the commission followed those set down in the so-called "Washington Agreement" which was signed in 1936 by some 219 railroads and the standard railway labor unions and provided for the compensation of those employees who lost their jobs because of mergers. He further explained that at the hearing before the District Court in Chicago, the evidence gathered by the commission was not submitted with the result that the lower court did not pass upon the facts in the case, but only decided that the commission had no power to attach the labor conditions.

It was Mr. Wilson's contention that the commission had ample precedent for laying down these conditions before permitting the merger. Asked by Justice Reed as to whether there is any legislative history which would show that the Congress intended the commission to have this power, Mr. Wilson had to admit that there was none. Justice Black wanted to know whether the coordinator had made any such recommendation in any of his reports to the Congress. Mr. Wilson told the Court that the coordinator had made such a recommendation in his fourth annual report. To further support the contention that the commission has this power, the government counsel cited the Committee-of-Six's attitude on the matter pointing out that this labor-management group envisioned some such power being lodged in the commission or in some special tribunal set up to solve these particular problems attendant upon mergers and consolidations.

Mr. Wilson argued that the lower court had held that the labor conditions did not

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Sues to Jack Up Red Caps' Wages

Ma Perkins' department thinks tips are less than porters report them to be

A suit to compel the Cincinnati Union Terminal to pay its 96 red caps a minimum wage of 30 cents per hour, as provided under the Fair Labor Standards Act, was filed on November 6 in the U. S. District Court for the Southern District of Ohio. An early court test of the so-called "accounting and guarantee" agreement used in connection with the employment of red caps had been forecast by former Administrator Andrews of the Wages and Hours Division of the U. S. Department of Labor in a statement issued on October 14 when Mr. Andrews, whose resignation was announced on October 17, stated that he had adopted recommendations made by Gustav Peck, assistant chief of the Hearings and Exemptions Section of the Division, who conducted last June's hearing on the record-keeping practices of railroads and terminals in the employment of red caps. Mr. Andrews' October 14 statement was reviewed in the *Railway Age* of October 21, page 628.

The complaint alleges that the terminal company has compelled the red caps to maintain records of tips received and "arbitrarily instructed" them to list not less than the legal minimum prior to October 24. Those who failed to report as much as the legal minimum, it is alleged were threatened with dismissal by agents of the terminal company.

The complaint further alleges that the terminal company has violated regulations concerning the keeping of records of employees promulgated by the Wage and Hour Division. "In records which employees have been required to keep since October 24, 1938," according to the complaint, "said employees have been or are being coerced to make false entries of tips received by them from the public and the defendant knows that many of such entries are false in material respects."

According to the complaint, the terminal company, prior to October 24, 1938, when the Fair Labor Standards Act became effective, sent to each of the 96 red caps employed in the terminal two copies of the contract, one of which the employees were instructed to sign and return to the company.

This contract, the Labor Department

(Continued on page 767)

Roads Move To Recover L. C. L.

Nine roads seek to recover traffic lost to forwarders through lower rates

Picturing freight forwarders as formidable competitors whose inroads on the more remunerative merchandise traffic must be checked if railway l. c. l. service generally is to be protected, the Pennsylvania and eight other railroads have obtained from the Interstate Commerce Commission temporary fourth-section relief to permit reductions in Official-territory class and commodity rates for the purpose of meeting any existing or future rates of the consolidating companies. Among other arguments the applicant railroads asserted that with recent improvements, including co-ordinated rail-truck operations, their l. c. l. service is not inferior to that of the forwarders, thus making it "clear" that the loss of traffic to the latter "is primarily due to their maintenance of lower rates."

The temporary relief was granted by the commission without waiting to hear the New York Central and other roads, which had asked to be heard; it runs "until the effective date of the further order to be entered after hearing," although the order has the usual stipulation that it does not approve "any rates that may be filed under this authority, all such rates being subject to complaint, investigation and correction if in conflict with any provision of the Interstate Commerce Act." The eight roads joining with the Pennsylvania in the application, listed as Fourth Section Application No. 18072, were: Baltimore & Ohio; Chicago, Indianapolis & Louisville; Detroit, Toledo & Ironton; Long Island; Norfolk & Western; Pittsburgh & West Virginia; Virginian; and Western Maryland. Along with the New York Central, the Wabash, Lehigh Valley, Delaware, Lackawanna & Western, Chesapeake & Ohio and Erie have notified the commission of their desire to be heard.

Recovery of l. c. l. traffic from forwarders is set forth in the application as the objective of the move; and the Pennsylvania and its associates stress their desire to avoid any rate war with motor carriers, which, they say, would be unfortunate at this time when efforts are being made to bring about greater stability in the rail and truck rate structures. Thus it is suggested that a uniform class rate reduction would be an unsuitable method of meeting forwarder competition because it might precipitate a rate war with truckers. Also, it is pointed out that the motor carriers have been able to meet forwarder competition because, among other things, the truckers are not bound by the fourth section.

Describing more specifically the situation causing them to seek relief, the applicant railroads assert that forwarders commonly maintain rates lower than rail l. c. l. charges between the principal cities where there is a substantial movement of merchandise traffic; between smaller intermediate points where the volume is lighter,

Mississippi Valley Association Horns In on Trainload Rate Case

The Interstate Commerce Commission has authorized the Mississippi Valley Association to intervene in the case wherein the Illinois Central and the Missouri Pacific are proposing a trainload rate on black-strap molasses moving from New Orleans, La., to Peoria, Ill., and Pekin. Oral argument in this proceeding (I. & S. No. 4645) was reported in the *Railway Age* of November 4, page 714; but the present order permits M. V. A. to intervene "for the purpose of filing a brief, and participating in any further proceedings herein."

the forwarders maintain rates no lower than those of the railroads, or have no rates of any kind. The lower rates of the forwarders between the more important points, the petitioners claim, leave them unable to compete for the more desirable traffic, despite general improvement in their l. c. l. service. Among such improvements, the application cites co-ordinated rail-highway operations centered around concentration points; the extensive substitution of highway services for branch lines operations; and the widespread use of trucks as feeders and in distribution throughout metropolitan areas. All of this is called "true co-ordination" which has brought improved service to the public and economies to the railroads. In the latter connection the increase in average loading of l. c. l. cars is cited; on the Pennsylvania, for example, such average loading has increased from 3.5 tons in 1933 to the present seven tons, having been 7.21 tons in October, 1938. These averages, the application points out, reflect branch-line and other light-volume routes where forwarder service is often unavailable.

The Pennsylvania estimated that it lost \$12,000,000 in 1936 through diversion of l. c. l. to forwarders, and the application said that the 1937 and 1938 losses were perhaps greater. The diversion to forwarders, the application goes on, began to assume considerable proportions about a decade ago; and "if the tendency is not arrested, it will not be long before the most remunerative l. c. l. traffic will be entirely lost." Such a loss, it is next pointed out, would increase the unit cost of handling the traffic remaining, and efforts to curtail unprofitable operations would inevitably result in impairment of the service with small communities the greatest sufferers. Rates they would publish under the grant of fourth-section relief, the railroads assert, would enable them to regain a substantial proportion of the better-paying traffic which they formerly handled without occasioning any appreciable loss of revenue on present traffic.

The temporary relief granted contains no provision for publishing the forwarder-competitive rates on less than the 30 days statutory notice. Meanwhile the commission,

(Continued on page 767)

"Public" Considers R. R. Wage Hike

Spencer of Adjustment Board fame is one of group which omits all shippers

Appointment of an industry committee of 12 members headed by Frank P. Graham, president of the University of North Carolina, to recommend a minimum wage for the railroad industry was announced on November 3 by the Wage and Hour Division, U. S. Department of Labor. This committee is authorized under the Fair Labor Standards Act to investigate conditions in the industry and to recommend to the Administrator the highest minimum wage rate (up to 40 cents an hour) which will not substantially curtail employment.

The definition of the "railroad carrier industry" in the order creating the committee is the one used in the Railroad Retirement Act. "The railroad industry," the Labor Department announcement says, "employs some 1,200,000 wage earners. The great majority of these are paid at rates considerably higher than those that can be set under the Fair Labor Standards Act. Estimates obtained from railway organizations indicate that at present there are approximately 100,000 railway workers receiving less than 40 cents an hour. The great bulk of these are maintenance-of-way workers."

In addition to the chairman, who is appointed as a so-called "public" member, the committee is comprised of:

For "the Public"

Charles S. Johnson, negro educator, Fisk University, Nashville, Tenn.
William H. Spencer, dean of the School of Commerce and Education, University of Chicago, Chicago
Oscar K. Cushing, attorney, San Francisco

For the Employees

George Wright, general vice-president, International Brotherhood of Firemen and Oilers, Roundhouse and Railway Shop Laborers, Chicago
T. C. Carroll, vice-president, Brotherhood of Maintenance-of-Way Employees, Umatilla, Fla.
H. A. Bacus, research director, Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, Cincinnati, Ohio
James McNamara, vice-president, Hotel and Restaurant Employees International Alliance, Washington, D. C.

For the Employers

E. J. McClees, executive secretary, Bureau of Information of the Eastern Railways, New York
C. D. Mackay, assistant vice-president, Southern Railway System, Washington, D. C.
Edward Murrin, executive secretary, Association of Western Railways, Chicago
J. H. Hunt, assistant to the president,

the American Short Line Railroad Association, Washington, D. C.

The definition of the "railway carrier industry" for which the committee will make a minimum wage rate recommendation follows:

The industry carried on by any express company, sleeping car company or carrier by railroad, subject to Part I of the Interstate Commerce Act, and by any company which is directly or indirectly owned or controlled by one or more such carriers or under common control therewith, and which operates any equipment or facility or performs any service (except trucking service, casual service, and the casual operation of equipment or facilities) in connection with the transportation of passengers or property by railroad, or the receipt, delivery, elevation, transfer in transit, refrigeration or icing, storage, or handling of property transported by railroad, and by any receiver, trustee, or other individual or body, judicial or otherwise, when in the possession of the property or operating all or any part of the business of any such company or carrier by railroad:

Provided, however, that the term "Railroad Carrier Industry" shall not include the industry carried on by any street, interurban, or suburban electric railway, unless such railway is operating as a part of a general steam-railroad system of transportation, but shall not exclude any part of the general steam-railroad system of transportation now or hereafter operated by any other motive power.

"An extensive study of hourly wage rates in the railroad industry," the statement concludes, "has been made by the Economic Section of the Wage and Hour Division for the use of the committee which will be sent to them in advance of their first meeting. After the committee has filed its report and minimum wage recommendation with the Administrator, he will schedule a public hearing upon the recommendation at which any interested person may appear. After this public hearing, he may approve or reject the recommendation."

Western Railway Club

Dr. Franklyn Bliss Snyder, newly elected president of Northwestern University, Evanston, Ill., will address the Western Railway Club, Chicago, on Monday evening, November 20, on the plans for the new Northwestern Technological Institute.

New England Greyhound Asks I. C. C. Authority

The New England Greyhound Lines, affiliate of the New York, New Haven & Hartford, has asked the Interstate Commerce Commission for authority to guarantee \$75,000 of notes secured by first mortgages on facilities at lunch and rest stops in its territory.

Pennsylvania Greyhound Lines Gets Bus Certificates

The Interstate Commerce Commission, Division 5, has granted certificates to the Pennsylvania Greyhound Lines, affiliate of the Pennsylvania, for common-carrier bus operations over routes between various points in Ohio, Pennsylvania, Indiana and Kentucky. The case was docketed as No. MC-1502 (Sub-No.12).

M. & O. Motor Carrier Affiliate Asks I. C. C. Authority

The Mobile & Ohio Transportation Company of Illinois (a motor carrier affiliate of the Mobile & Ohio) has asked the Interstate Commerce Commission for authority to acquire control of the St. Louis, Red Bud & Chester Motorbus & Service

Corporation through ownership of its capital stock. The service to be acquired is between Cairo, Ill., and East St. Louis.

New Haven Operates Armistice Day Specials

The New York, New Haven & Hartford is operating a special two-day run from various points in New England to Washington, D. C., Armistice Day week-end. Running from New Haven, Conn., Bridgeport, Hartford, New London, Springfield, Mass., and Providence, R. I., the train is scheduled to give two days for sightseeing in the nation's capital, arriving there at 6:40 a. m., Saturday, November 11, and leaving Sunday at 8:55 p. m.

Motor "Proportionals" for Forwarders

The Interstate Commerce Commission has further postponed from November 10 until December 1, the effective date of its order in I. & S. No. M-247 wherein it struck down tariffs whereby certain motor carriers in the Middle West sought to publish as "proportional" rates those arrangements with forwarders which were formerly set forth in forwarder tariffs which the commission has ordered stricken from its files.

Rapid Transit Car to Feature N. Y. Club Meeting

The New York Railroad Club will hold its next meeting on Thursday, November 16, at the Engineering Societies building, New York. Entitled "The Car of Tomorrow" the program will concern the light-weight, articulated compartment car recently placed in service on the Brooklyn-Manhattan Transit Lines. A. O. Williams, chief engineer, Clark Equipment Company, will describe the design and construction of the car by his company in collaboration with the Aluminum Company of America; G. W. Wilson, manager, transportation department, General Electric Company, will discuss the electrical equipment and S. L. Williams, district engineer, Westinghouse Air Brake Company, will describe the special braking and control features.

Railroads Develop Chemical to Prevent Corrosion

Annual savings of two million dollars are expected to result from the development by the railroads of a chemical which will inhibit the corrosive effects on equipment, track and bridges, of brine that drips from refrigerator cars, according to the Association of American Railroads. Development of the chemical resulted from a series of tests conducted over a period of several years by this Association in co-operation with various railroads.

When ice is placed in a refrigerator car, it has long been the practice to add salt if low temperature is required. The almost constant dripping of brine from these cars, however, causes the metal parts of equipment, rail, track fastenings and bridges to corrode. In an effort to put a stop to this damage, a series of laboratory tests was instituted in order to develop a chemical which when added with the salt, would

neutralize the corrosive effects of the brine. After extensive laboratory experiments, the A. A. R. statement says, a chemical has been found which "gives good promise of inhibiting corrosion without interfering with refrigeration." The laboratory tests were conducted under the general direction of W. I. Cantley, mechanical engineer, Mechanical Division, and G. M. Magee, research engineer, Engineering Division of the A. A. R.

Northwest Petroleum Rate Order Postponed

The Interstate Commerce Commission has postponed from November 9 until January 8, 1940, the effective date of its order requiring the cancellation of schedules proposing to publish rates dealt with in the recent decision wherein the commission disposed of six proceedings embracing the principal interstate rail and truck rates on petroleum and its products in Mountain-Pacific Northwest. The title case was I. & S. Docket No. 4614, and the decision was reviewed in the *Railway Age* of October 7, page 533.

Special Imprint for New "Mercury"

A special mail cachet to commemorate the first trip of the Mercury, which the N. Y. Central will place in service between Chicago and Cleveland via Detroit on November 12, is being stamped on letters sent out by the railroad. In addition the railroad is offering to imprint the cachet on letters sent in by collectors.

On a demonstration run from Chicago to Kalamazoo on November 3, the train carried 160 members of the Traffic Club of Chicago and 40 representatives of the press. The train was exhibited at Chicago on November 4.

Special Session of Congress Adjourned November 3

Revision of the neutrality laws in accordance with the recommendations of President Roosevelt was the only legislation enacted at the special session of Congress which adjourned on November 3. No consideration was given to railroad legislation, the previously-announced arrangement whereby the conferees on S. 2009 will meet about December 10 to prepare a conference report for presentation at the regular session which convenes January 3, 1940, being still the plan for the handling of this general transportation bill.

S. A. L. to Receive Exhibit Locomotive

At a cost of more than \$2,000 and five days of hard work, the 560,000-lb., two-unit Diesel-electric locomotive built by the Electro-Motive Corporation and exhibited at the entrance of the General Motors building at the New York World's Fair since its opening, has been moved from its place of honor to the Electro-Motive plant at La Grange, Ill., for a full servicing before it is turned over to its owner, the Seaboard Air Line. Trees, hot dog stands, lamp posts and other obstacles had to be torn down to make possible the removal of the huge machine from the building to the tracks of the Long Island. The loco-

motive was moved under its own power on sections of track which were picked up and laid down on a circuitous route out of the Fair grounds. Once on the Long Island tracks the locomotive was driven to the East River, lighted to Jersey City and sent over the Baltimore & Ohio tracks to La Grange.

Want Dealers' Transport "Profits" in Auto-Rate Record

The National Automobile Transporters Association has asked the Interstate Commerce Commission to include in the record of its No. 28190 investigation of rates on new automobiles information relative to profits made by distributors and dealers hauling new cars for themselves. The petitioner would have the requested data in the record "so that the commission may know once and for all whether any rate structure it may fix for the transportation of new automobiles must or must not be tempered by a consideration of the activities of a medium of carriage as to which there is doubt on the question of jurisdiction."

Club Meetings

The Eastern Car Foremen's Association will hold its annual Boston dinner and entertainment at the Brown Derby, Boston, Mass., November 13.

The New England Railroad Club will hold its next meeting, November 14, at the Hotel Touraine, Boston, Mass. E. H. Roy, general superintendent motive power, Seaboard Air Line, will discuss "Diesel locomotive application—Seaboard Air Line Railway". A dinner will precede the meeting.

The Car Foremen's Association of Chicago will hold an open meeting night for the discussion of car department questions by the membership on November 13 at 8 p. m. at the Hotel La Salle, Chicago.

The Steel Industry in Photographs

The United States Steel Corporation has published recently a book of 111 photographs of unusual size and clarity which comprise a pictorial presentation of the steel industry. Action "shots" show not only the various stages in the manufacture of steel and steel products, but as well the extraction and transportation of raw materials,—iron ore, coal and limestone. Most impressive of the scenes are those of Bessemer converters, tapping a blast furnace and pouring molten iron into an open hearth furnace.

Of particular interest to railroad men will be views of an ore-carrying road between the Missabe Iron Range and the shores of Lake Superior and an eight-page section of the book dealing with steel for railroads which contains photographs giving complete views of the manufacture of rails, axles and wheels.

R. & L. H. S. Bulletin Features Early Operating Rules

Bulletin No. 50 of the Railway & Locomotive Historical Society, presents a feature article describing early train rules and standard code from the beginnings of railroading in New England to date. Con-

sisting largely of copious quotations from the early rule books the article contains also a running commentary by the author which points out the major changes in safety techniques from decade to decade. Other interesting articles in the bulletin include a description of locomotives of the Central New England (now New York, New Haven & Hartford) early locomotives of the Delaware, Lackawanna & Western and its subsidiaries and articles describing exhibits of chapters of the society at the New York World's Fair and the San Francisco Golden Gate Exposition, respectively.

No Permits for Forwarders

Following its finding in the Acme Fast Freight case that forwarders are not common carriers by motor vehicle nor brokers under the provisions of the Motor Carrier Act, the Interstate Commerce Commission, Division 5, has denied motor carrier and broker applications of the Texas Package Car Company, Inc., and the Lone Star Package Car Company, of Houston, Tex.; the Springmeier Shipping Company and Flynn Forwarding, Inc., of St. Louis, Mo.; and the Gulf Carloading Company of Texas, Inc., Dallas, Tex., and several affiliates.

Also, the commission has received from Examiner S. A. Aplin proposed reports recommending like findings on similar applications of the National Carloading Corporation, the General Carloading Company and the Merchants Carloading Company. Meanwhile, the commission, following the findings of its supplemental report in the Acme case has rejected tariffs tendered for filing by National and the Universal Carloading & Distributing Company.

Special Car Order 39 Canceled

The Car Service Division of the Association of American Railroads on November 6 canceled Special Car Order 39, which was promulgated on September 23 to expedite the return to home lines of plain box cars owned by Western roads. The notice states that the box car supply on Western roads is now such as to permit the order's cancellation, although it goes on to list "certain vital considerations that must govern further box car handling in order to restore normal conditions promptly."

The list calls for "renewed vigor" in enforcing Car Service Rules 1, 2 and 3; special attention to 50-ft. box cars, because of "continued heavy demands" for this type and "inadequate ownership" in certain sections; and special and preferred attention to insure prompt return of cars of those Western roads whose Eastern termini are remote from heavy interchange points.

Freight Car Loading

Loading of revenue freight for the week ended November 4 totaled 805,862 cars, the Association of American Railroads announced on November 9. This was a decrease of 28,234 cars, or 3.4 per cent, below the preceding week, but an increase of 132,895 cars, or 19.7 per cent, above the corresponding week last year, and an in-

crease of 77,097 cars, or 10.6 per cent, above the comparable 1937 week.

As reported in last week's issue, the loadings for the previous week ended October 28, totaled 834,096 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, October 28

Districts	1939	1938	1937
Eastern	168,873	141,463	156,098
Allegheny	171,972	124,268	138,695
Pocahontas	63,828	53,210	53,284
Southern	113,747	102,553	112,670
Northwestern ..	127,169	100,065	106,291
Central Western	130,633	131,262	136,528
Southwestern ..	57,874	55,769	64,458

Total Western Districts	315,676	287,096	307,277
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Total All Roads	834,096	708,590	768,024
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Commodities

Grain and grain products	40,232	46,901	44,067
Live stock	20,410	21,053	19,393
Coal	164,868	136,134	151,284
Coke	11,675	6,196	7,916
Forest Products	37,529	30,036	34,289
Ore	62,063	24,609	30,862
Merchandise l.c.l.	159,348	158,897	169,747
Miscellaneous ..	337,971	284,764	310,466

October 28	834,096	708,590	768,024
October 21	861,198	705,284	770,156
October 14	844,955	726,142	806,095
October 7	834,694	702,616	812,258
September 30 ..	834,640	696,908	843,861

Cumulative Total, 43 Weeks ...	27,800,610	24,981,787	32,302,483
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In Canada.—Carloadings in Canada for the week ended October 28, totalled 59,903 cars, compared with 62,345 cars in the previous week, according to the weekly statement of the Dominion Bureau of Statistics. Loadings in all groups were heavier in the eastern division than in 1938, but in the western division a decrease of 4,497 cars of grain, 264 cars of coal and 6 cars of pulpwood more than offset increases in the other groups.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
October 28, 1939.....	59,903	27,405
October 21, 1939.....	62,345	28,682
October 14, 1939.....	60,079	27,864
October 29, 1938.....	57,933	22,634

Cumulative Totals for Canada:		
October 28, 1939.....	2,081,394	969,504
October 29, 1938.....	2,025,089	876,545
October 30, 1937.....	2,188,594	1,139,357

Survey Iron and Steel Scrap

Authentic information on stocks of iron and steel scrap for the month of September, 1939, will be made available as the result of a survey of dealers' and consumers' stocks and scrap inaugurated by the Bureau of Mines, according to an announcement made by the Secretary of the Interior. This action is in keeping with the policy of the Bureau of Mines to present timely factual data on the strategic and highly essential mineral raw materials during the present international crisis. Iron and steel scrap, because of its tremendous importance to the steel industry, is regarded as a vital industrial raw material.

Adequate data are available on iron ore and pig iron, but little is known as to the present stocks of scrap. The need for supplying this major deficiency in facts pertaining to the iron and steel industry has been acknowledged widely by leaders in industry and government, and the Secretary of the Interior has requested the

patriotic cooperation of both suppliers and consumers in contributing accurate and prompt reports on their scrap position to the Bureau of Mines. The survey has been endorsed by the Army and Navy Munitions Board, and the cooperation of the American Iron and Steel Institute, the Institute of Scrap Iron and Steel and the National Association of Waste Material Dealers has been pledged.

Senate L. C. L. and Forwarder Probe Postponed

The Senate committee on interstate commerce's investigation of railroad methods of handling forwarder, l. c. l. and express traffic will be postponed until the committee has completed its work on S. 2009, the pending general transportation bill, Senator Reed, Republican of Kansas, revealed late last week. Thus the probe will perhaps be delayed until after Congress returns for the regular session in January, since the conferees on S. 2009 are not scheduled to begin their meetings until December 10 and are expected to require at least three weeks for the framing of a conference report.

Hearings in connection with the forwarding inquiry were originally scheduled to begin the latter part of this month before a sub-committee comprised of Chairman Wheeler and Senator Hill of Alabama, Democrats, and Senator Reed. It is understood that Senator Reed, who has been most interested in the matter, was disposed to proceed on schedule, but Chairman Wheeler thought he would like to get S. 2009 out of the way first. As noted in the *Railway Age* of October 14 a delegation of railway executives recently called on Senators Wheeler and Reed, asking that the investigation be postponed.

Rocket Makes Initial Trip

The Rocky Mountain Rocket, which the Chicago, Rock Island & Pacific will place in service between Chicago and Denver, Colo., and Colorado Springs on November 12, on a schedule of 19 hours eastbound

and 19½ hours westbound, made its initial trip on November 5 when a party of ticket agents and representatives of other railroads and members of the press were carried to Starved Rock, Ill., and return. This train, the first of two to be delivered, will be exhibited along the line and will then be placed in daily service at Denver.

Operation of the service to and from Colorado Springs will be accomplished by the employment of a steam locomotive and a standard baggage car which will handle the Colorado Springs cars, of the Rocket between that city and Limon, Colo.

October Employment 8.07 Per Cent Above Last Year

Railroad employment increased another 3.54 per cent—from 1,019,063 to 1,055,164—during the one-month period from Mid-September to Mid-October, according to the Interstate Commerce Commission's compilation based on preliminary reports. The increase, as compared with October, 1938, was 8.07 per cent, while the index number, based on the 1923-25 average as 100 and corrected for season variation, stood at 57.5—higher than that for any other 1938 or 1939 month.

Employment in all groups was up as compared with September, while all save that embracing executives, officials and staff assistants (down 0.18 per cent) were above October, 1938. The largest increases over the previous month and over October of last year were reported for the maintenance of equipment and stores group, up respectively 8 per cent and 16.81 per cent.

September Locomotive Shipments

September shipments of railroad locomotives totaled 35 as compared with 34 in August and three in September, 1938, according to reports received by the Department of Commerce's Bureau of the Census from the country's principal builders. The September total included 19 steam locomotives and 16 Diesel-electrics, all for domestic service.

Total shipments for this year's first nine

months were 231 locomotives as compared with 222 for the comparable 1938 period. At the close of September there were unfilled orders for 138 locomotives, as compared with 51 on September 30, 1938.

The table giving data furnished by the Association of American Railroads on locomotive building in railroad shops shows that 35 locomotives, including 18 steam and 17 electrics, were thus built or rebuilt during the first nine months of this year. As of October 1, there were on order in railroad shops 38 locomotives, including 18 steam and 20 electrics.

Room Cars Meet with Popular Approval

Public approval of room accommodations is indicated in the latest figures available, which show that of the total number of rooms available 75 per cent are being occupied. In the first eight months of 1939, 149,000 roomettes were purchased by travelers, as compared with 89,500 during all of 1938. Higher priced room accommodations have also increased and in turn have stimulated a demand for suites of rooms. In one month 2½ per cent of all bedrooms available were occupied in suites of two rooms, by an average of 2½ passengers. The record of convertible sections, in which the mattress is folded back to allow dressing room space, shows that during the eight months from January to August, 1939, approximately 500,000 convertible sections were sold.

At the present time a total of 5,172 rooms are in service including 91 roomette units; 22 duplex cars with 258 duplex units; and 684 bedroom cars and cars with bedrooms in combination with sections or other type accommodations, with 3,544 bedrooms. This total is being increased steadily by the conversion of open section cars into small room units and the construction of new cars containing rooms.

Equipment Depreciation Orders

Equipment depreciation rates for six railroads including the Fort Worth & Denver City and the Bangor & Aroostook, have been prescribed by the Interstate Commerce Commission in a new series of sub-orders and modifications of previous sub-orders in No. 15100, Depreciation Charges of Steam Railroad Companies. The composite percentages, which are not prescribed rates, range from 2.99 per cent for the Bangor & Aroostook to 11.17 per cent for the Gulf & Northern.

The Fort Worth & Denver City's composite percentage of 3.57 is derived from prescribed rates as follows: Steam locomotives, 3.13 per cent; freight-train cars, 4.01 per cent; second-hand gas-electric rail motor cars, 7.58 per cent; stainless steel passenger-train cars, 3.9 per cent; "second-hand Diesel-electric zephyr type streamline train owned by the Burlington-Rock Island Railroad Company," 7.79 per cent; "Diesel-electric streamline train owned by the Chicago, Burlington & Quincy," 6.1 per cent; all other passenger-train cars, 2.93 per cent; work equipment, 4.13 per cent; miscellaneous equipment, 15.27 per cent.

The above-mentioned Bangor & Aroostook composite percentage of 2.99 is derived from prescribed rates as follows:



Cars for the Rocky Mountain Rocket were built by the Edward G. Budd Manufacturing Company and the Pullman-Standard Car Manufacturing Company. The locomotive is a product of the Electro-Motive Corporation.

Steam locomotives, 2.86 per cent; all-steel freight-train cars, 2.75 per cent; all other freight-train cars, 3.25 per cent; passenger-train cars, 2.39 per cent; work equipment, 3.38 per cent; miscellaneous equipment, 20 per cent.

Transportation Conference at Ann Arbor

Approximately 500 leaders in the fields of railway, highway and air transportation gathered at Ann Arbor, Mich., on November 1-3 to participate in a Conference on New Technologies in Transportation, sponsored by the University of Michigan and Life Magazine. In the field of transportation engineering, special interest was attached to a round table session on Friday forenoon at which Professor H. F. Moore reviewed the work that he is doing for the Engineering Division, Association of American Railroads, at the University of Illinois on the elimination of transverse fissures; Harcourt C. Drake, director of research, Sperry Products Corporation, described the improvements made in equipment for the detection of transverse fissures in rails in track; J. F. Woschitz, metallurgist of the Inland Steel Company, described the results secured from the controlled cooling of rails; and Oscar J. Horger, research engineer of the Timken Roller Bearing Company, described experiences with the application of bearings to rolling stock and the advantages afforded by such bearings in the design of this equipment.

On Thursday afternoon, F. G. Gurley, vice-president of the Atchison, Topeka & Santa Fe Railway, Chicago, reviewed recent developments in steam railway transportation in a symposium on this subject. Mr. Gurley's address will be abstracted in a later issue.

New Co-ordination Committee for Mechanical Associations

Following the close of the meetings of the Railway Fuel and Traveling Engineers' Association, the Car Department Officers' Association, the Master Boiler Makers' Association, and the Locomotive Maintenance Officers' Association at Chicago on October 19, the Committee on Coordination of Conventions was reorganized. Under the chairmanship of Frank Roesch, vice-president, Standard Stoker Company, this committee has long been active in promoting the present arrangement of simultaneous meetings, with a combined exhibit, when one is held. Following the recommendation of its chairman, Mr. Roesch, in his report before the joint session of the four associations, that the committee be discharged and a new committee organized to carry on the arrangements for the simultaneous meetings, the old committee has been discontinued and a new Committee of the Coordinated Associations takes its place. This committee, of which the president and secretary of each of the associations are members, elects its own officers. Frank Roesch was re-elected chairman and T. Duff Smith, secretary-treasurer of the Railway Fuel and Traveling Engineers' Association, was elected secretary. In addition to the four railway associations, the Allied Railway Supply As-

sociation is represented on the committee. Included in its duties are convention and exhibit arrangements. It is also available to serve as a coordinating agency to avoid conflicts in the programs of the four railway associations.

August Bus Revenues 9.9 Per Cent Above Last Year

Class I motor carrier of passengers reported August revenues of \$12,938,092, as compared with \$11,769,342 for August, 1938, an increase of 9.9 per cent according to the monthly compilation prepared by the

	Passenger Revenue		Passengers Carried	
	August, 1939	August, 1938	August, 1939	August, 1938
New England Region.....	\$787,791	\$679,957	1,195,813	1,118,153
Middle Atlantic Region.....	2,428,420	2,095,774	3,234,580	2,834,006
Central Region.....	2,362,788	2,051,958	2,049,649	1,885,918
Southern Region.....	2,411,661	2,419,741	2,657,535	2,438,962
Northwestern Region.....	570,012	533,271	382,978	369,091
Mid-Western Region.....	1,091,873	1,019,271	579,418	567,072
Southwestern Region.....	1,399,009	1,361,186	1,296,750	1,271,406
Rocky Mountain Region.....	177,169	180,849	110,420	112,964
Pacific Region.....	1,709,369	1,427,335	1,514,046	1,255,345

Interstate Commerce Commission's Bureau of Statistics from 148 monthly reports representing 149 bus operators. Passengers carried likewise increased 9.9 per cent, from 11,852,919 to 13,021,189. The breakdown of the bus revenue and traffic figures by regions is given in the accompanying table.

Jones Proposes New Interest Reduction Plan for B. & M.

A new type of plan for the scaling down of a railroad's fixed charges was made public on November 7, when the management of the Boston & Maine decided to act upon a formula offered it by the Reconstruction Finance Corporation. Under the new plan, details of which were announced by Jesse H. Jones, Federal Loan Administrator in a letter to E. S. French, president of the road, holders of the outstanding \$103,833,000 of first mortgage bonds would receive in exchange new 30-year four per cent income bonds for 50 per cent of the holdings and either cash or new 20-year four per cent first mortgage bonds for the other half. In order to make the plan effective, Mr. Jones said that virtually all the bond-holders would have to accept it.

In addition to the provision for those bonds held publicly, the plan provides (1) that the Reconstruction Finance Corporation agree to buy up to \$40,750,000 of the new 20-year four per cent first mortgage bonds to pay off \$14,750,000 of existing debt to the R. F. C. and the balance, not exceeding \$26,000,000 to provide cash for the present holders of bonds who do not elect to accept new first mortgage bonds for 50 per cent of their holdings; (2) bank loans amounting to \$5,500,000 would be paid off with new first mortgage bonds at par and accrued interest; (3) the R. F. C. and the banks would surrender the \$30,500,000 of first mortgage bonds now held to secure the road's indebtedness to them, and would retain as additional security for payment of the bonds and sinking fund thereon taken by the R. F. C. and the banks the balance of the collateral now held by the R. F. C.; (4) the company would

make certain equitable adjustments, acceptable to the R. F. C. and the Interstate Commerce Commission.

In his letter to Mr. French, Mr. Jones pointed out that the new interest reduction program would reduce the road's fixed charges by \$3,000,000 a year and reset bond maturities so that there would be nothing coming due for 20 years, except a small amount of equipment notes. At present the road is faced with more than \$60,000,000 of maturities between now and 1944.

Mr. Jones, at a press conference, explained that conversations regarding the

plan have been held by directors of the road and R. F. C. officials for several months. On November 6, according to Mr. Jones, the plan was approved by the B. & M. board of directors. Before the plan is put into effect, approval must be had from the bondholders and the banks who hold some \$5,500,000 of notes.

Mr. Jones also explained that the plan is different from the Baltimore & Ohio plan recently approved by the United States District Court in Baltimore in that it will require no court approval, but will only need I. C. C. authority for the issuance of the new securities. It is, he said, the first plan of its kind, and is a very simple one because of the fact that the B. & M. is the only road of importance which has but one mortgage. He thought that some other roads might use a similar plan, but pointed out that if the plan were used much, more money would be required than is available at present.

The B. & M. plan will also differ from the B. & O. plan in that the latter merely defers fixed charges while the B. & M. plan provides for an actual permanent reduction in fixed charges.

The correspondence made public between Mr. Jones and Mr. French revealed that a request of the Boston & Maine for additional loans to meet its maturing bonds in 1940 and 1941 had been refused by the R. F. C. because that agency said it did not feel warranted in lending more money "unless you rearrange your debt structure and reduce your fixed charges". The letter then said that the R. F. C., with the prior approval of the I. C. C. would assist the road in working out such a plan.

Truman Explains Railroad Bills

A group of about 80 representatives of holders of railroad securities and of railroad management heard Senator Harry S. Truman defend provisions of the Senate Transportation bill (introduced by the speaker and Senator Burton K. Wheeler as S. 2009) at a luncheon held in New York under the auspices of the New York State unit of the National Conference of Invest-

ors on November 3. Senator Truman declared that most opposition to the bill arises from its provision to regulate water carriers, which opposition, he believed, is being made principally by commercial interests who benefit by the use of free waterways without regulation. Referring to outstanding criticism of the recodifying features of S. 2009, the speaker declared that the re-writing of the act as provided in the bill has already been drafted so that it will not upset court decisions. He defended recodification as making the language of the Interstate Commerce Act clearer and enforcement easier. The only opposition to the bill from railroad labor comes from the Brotherhood of Railroad Trainmen, the senator stated, and expressed belief that such opposition could be met satisfactorily.

The meeting also discussed a bill introduced by Senator Truman last summer which would permit the Reconstruction Finance Corporation to loan money to the carriers to buy up their own bonds at current market values. Robert T. Swaine, of Cravath, de Gersdorff, Swaine & Wood of New York, objected to the bill on the grounds that since the Reconstruction Finance Corporation would hold the bonds purchased in the open market as collateral for its loans to the railroads, the government would in effect be made owner of a large block of securities. He also objected to a "joker" in the bill which provides that the R. F. C. would have a lien on the principal amount of its collateral should the borrowing road go into bankruptcy. This privilege he declared is not accorded to other bond-holders whose maximum lien on the debtor is limited to a percentage of the proceeds from property subject to the mortgage. Thus, he said, the R. F. C. would be singled out as the unique creditor, to the detriment of private creditors.

Eastern Roads to Restrict Free Transportation

The abolishment of the issuance of complimentary annual passes and "commutation" passes by foreign lines and drastic curtailment of "foreign" line trip passes to officers or employees are among the chief features of regulations recently adopted by the Eastern Railroads Presidents' Conference and the Presidents Traffic Conference—Eastern Territory to govern the issuance of free or reduced rate transportation, effective January 1, 1940. The new regulations provide that no complimentary free annual or term transportation for account of interest other than the issuing road or its wholly-owned common carrier subsidiaries will be issued by the Eastern lines; the issuance of such passes will be placed entirely upon the basis of exchange transportation and by specific request of the employing carrier to the issuing carrier through formal application.

Railroad officers or employees who commute regularly on passes issued by a carrier by which they are not directly employed, will have to pay for their commutation tickets under the new regulations which prohibit the use of annual or term passes for regular or daily travel between residences and places of business. The issuance of foreign line trip passes will be

based upon the following scale constructed on the length of service of officers or employees.

	Trips per Calendar Year
Less than 5 years' service	None
5 years' service but not exceeding 10 years	1
10 years' service but not exceeding 15 years	2
15 years' service but not exceeding 20 years	3
20 years' service or more	4

Trip passes requested for employees for account of company business will be designated as "on duty" passes and will not be charged against the number of trips permitted for personal use.

Rates based on one-half the normal one-way round-trip coach or first-class fare will be made available to railroad officers and employees and their dependents who

are not prohibited by law from receiving such transportation; this arrangement will not apply to special or excursion fares.

Effective the same date the quota of annual transportation passes issued to steamship companies will be reduced 50 per cent.

I. C. C. Compilation of Income and Balance Sheet Items for August

The Interstate Commerce Commission on November 2 made public its latest monthly compilation of selected income and balance sheet items, showing August's net income of the Class I roads as \$10,052,735, and the net deficit for this year's first eight months as \$74,646,758, as reported previously by the Association of American Railroads and noted in the *Railway Age* of October 28. The foregoing compare with an August, 1938 net income of \$1,181,043, and a de-

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled from 134 Reports (Form IBS) Representing 139 Steam Railways
(Switching and Terminal Companies Not Included)

TOTALS FOR THE UNITED STATES (ALL REGIONS)			
For the month of August	For the eight months of		
1939	1938	Income Items	1939 1938
\$54,586,247	\$45,421,774	1. Net railway operating income	\$269,349,355 \$155,038,539
10,323,238	11,207,865	2. Other income	88,446,879 91,343,769
64,909,485	56,629,639	3. Total income	357,796,234 246,382,308
1,845,514	1,838,302	4. Miscellaneous deductions from income	15,576,107 16,037,007
63,063,971	54,791,337	5. Income available for fixed charges	342,220,127 230,345,301
12,366,190	12,568,642	6. Fixed charges:	
		6-01. Rent for leased roads and equipment	91,444,326 86,198,130
39,499,945	39,821,683	6-02. Interest deductions	\$316,252,403 \$317,069,782
131,970	207,396	6-03. Other deductions	1,062,409 1,698,896
51,998,105	52,597,721	6-04. Total fixed charges	408,759,138 404,966,808
11,065,866	2,193,616	7. Income after fixed charges	*66,539,011 *174,621,507
1,013,131	1,012,573	8. Contingent charges	8,107,747 8,103,286
10,052,735	1,181,043	9. Net income†	*74,646,758 *182,724,793
16,873,944	16,919,588	10. Depreciation (Way and structures and Equipment)	134,617,362 134,740,319
3,291,044	1,726,024	11. Federal income taxes	15,430,363 8,462,760
11,609,936	9,313,648	12. Dividend appropriations:	
2,641,302	2,593,446	12-01. On common stock	40,962,260 43,399,385
		12-02. On preferred stock	12,852,758 9,166,383
		Balance at end of August	1939 1938
		13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	\$636,031,526 \$652,566,505
		14. Cash	464,097,038 367,129,816
		15. Demand loans and deposits	19,697,402 10,122,421
		16. Time drafts and deposits	21,410,084 18,510,242
		17. Special deposits	60,238,013 64,616,492
		18. Loans and bills receivable	1,519,476 1,538,775
		19. Traffic and car-service balances receivable	58,301,608 53,460,235
		20. Net balance receivable from agents and conductors	47,455,013 44,449,263
		21. Miscellaneous accounts receivable	122,320,755 127,700,821
		22. Materials and supplies	308,863,105 337,506,966
		23. Interest and dividends receivable	16,231,828 20,238,420
		24. Rents receivable	1,244,606 1,430,777
		25. Other current assets	7,199,558 6,122,287
		26. Total current assets (items 14 to 25)	\$1,128,578,486 \$1,052,846,515
		Selected Liability Items	
		27. Funded debt maturing within 6 months‡	\$168,368,873 \$116,945,297
		28. Loans and bills payable‡	240,349,160 246,548,948
		29. Traffic and car-service balances payable	79,046,837 72,769,464
		30. Audited accounts and wages payable	230,587,351 210,575,203
		31. Miscellaneous accounts payable	61,159,545 62,611,904
		32. Interest matured unpaid	913,559,287 761,211,416
		33. Dividends matured unpaid	1,564,248 1,603,257
		34. Funded debt matured unpaid	796,121,724 612,386,428
		35. Unmatured dividends declared	14,306,333 11,744,862
		36. Unmatured interest accrued	92,968,922 97,336,820
		37. Unmatured rents accrued	34,166,670 32,238,398
		38. Other current liabilities	25,916,748 22,995,880
		39. Total current liabilities (items 28 to 38)	\$2,489,746,825 \$2,132,022,580
		40. Tax liability (Account 771):	
		40-01. U. S. Government taxes	\$57,707,377 \$53,249,200
		40-02. Other than U. S. Government taxes	164,006,663 167,424,756

‡ Represents accruals, including the amount in default.

† For 100 railroads not in receivership or trusteeship the net income or deficit was as follows: August 1939, \$19,409,416; August 1938, \$11,974,409; 8 months 1939, \$18,076,210; 8 months 1938, \$64,495,546.

‡ Includes payments which will become due on account of principal of long-term debt (other than that in Account 764. Funded debt matured unpaid) within six months after close of month of report.

‡ Includes obligations which mature not more than 2 years after date of issue.

‡ Deficit or other reverse items.

NET INCOME OF LARGE STEAM RAILWAYS WITH ANNUAL OPERATING REVENUES ABOVE \$25,000,000

(Switching and Terminal Companies Not Included)

Name of railway	Net income after deprec.		Net income before deprec.	
	For the eight months of 1939	1938	For the eight months of 1939	1938
Alton R. R.	\$1,005,148	\$1,355,766	\$833,844	\$1,131,695
Atchison, Topeka & Santa Fe Ry. System	2,241,925	2,491,573	10,121,457	10,466,549
Atlantic Coast Line R. R.	465,911	959,499	923,620	424,610
Baltimore & Ohio R. R.	5,876,167	12,864,962	1,091,829	7,984,973
Boston & Maine R. R.	446,880	2,830,199	583,171	1,753,601
Central of Georgia Ry.	2,004,162	2,264,830	1,436,534	1,695,213
Central R. R. of New Jersey	2,709,408	2,683,922	1,774,959	1,740,470
Chesapeake & Ohio Ry.	12,283,482	9,696,925	17,782,152	15,230,210
Chicago & Eastern Illinois Ry.	1,333,519	1,456,811	937,512	1,052,960
Chicago & North Western Ry.	10,208,376	12,954,911	6,905,719	9,576,907
Chicago, Burlington & Quincy R. R.	1,235,977	458,423	2,236,766	2,921,646
Chicago Great Western R. R.	493,511	1,343,740	135,598	985,457
Chicago, Milwaukee, St. Paul & Pacific R. R.	13,986,027	14,547,654	10,129,832	10,725,830
Chicago, Rock Island & Pacific Ry.	6,939,495	9,054,763	4,206,941	6,259,299
Chicago, St. Paul, Minneapolis & Omaha Ry.	2,261,185	1,963,925	1,874,653	1,571,989
Delaware & Hudson R. R.	577,413	1,011,807	1,252,439	313,815
Delaware, Lackawanna & Western R. R.	1,686,173	3,400,342	61,490	1,753,214
Denver & Rio Grande Western R. R.	4,225,598	5,207,784	3,419,789	4,383,843
Elgin, Joliet & Eastern Ry.	666,435	593,102	1,302,160	74,981
Erie R. R. (including Chicago & Erie R. R.)	3,519,478	9,073,696	1,069,235	6,376,816
Grand Trunk Western R. R.	2,333,637	4,126,078	1,556,910	3,376,861
Great Northern Ry.	1,130,235	5,368,664	1,322,608	2,888,304
Illinois Central R. R.	2,064,325	1,792,533	2,310,401	2,537,888
Lehigh Valley R. R.	1,210,804	2,954,032	199,827	1,507,892
Long Island R. R.	1,241,251	1,170,780	456,572	386,544
Louisville & Nashville R. R.	2,712,276	279,244	5,602,989	2,608,882
Minneapolis, St. Paul & Sault Ste. Marie Ry.	4,803,363	4,913,246	3,990,081	4,093,435
Missouri-Kansas-Texas Lines	2,626,918	3,027,307	1,742,441	2,143,578
Missouri Pacific R. R.	10,591,178	11,093,286	7,684,890	8,175,463
New York Central R. R.	8,900,019	20,515,149	1,676,217	9,784,805
New York, Chicago & St. Louis R. R.	12,694	1,915,516	1,031,352	779,962
New York, New Haven & Hartford R. R.	4,222,729	8,353,499	1,972,007	6,087,405
Norfolk & Western Ry.	14,681,140	8,771,509	18,048,179	12,096,544
Northern Pacific Ry.	5,458,400	7,676,069	3,203,146	5,413,528
Pennsylvania R. R.	8,235,510	519,382	25,907,863	16,395,813
Pere Marquette Ry.	999,841	2,740,143	575,098	1,139,188
Pittsburgh & Lake Erie R. R.	1,063,128	615,939	2,558,207	2,112,725
Reading Co.	1,925,618	756,795	4,000,001	2,849,705
St. Louis-San Francisco Ry.	7,307,870	8,942,005	5,262,864	6,858,365
St. Louis Southwestern Lines	1,867,923	1,283,770	1,455,642	869,442
Seaboard Air Line Ry.	4,518,629	5,341,934	3,082,573	3,981,121
Southern Ry.	572,425	4,014,927	2,883,744	1,975,106
Southern Pacific Transportation System	1,243,131	10,355,834	3,992,499	4,837,124
Texas & Pacific Ry.	13,987	286,588	815,148	1,083,644
Union Pacific R. R. (including leased lines)	6,134,933	6,341,679	11,063,339	11,214,604
Wabash Ry.	3,963,646	5,114,200	2,531,496	3,679,465
Yazoo & Mississippi Valley R. R.	674,097	345,343	353,459	11,459

* Deficit.

† Report of receiver or receivers.

‡ Report of trustee or trustees.

§ Under trusteeship, Erie R. R. only.

|| Report includes Chicago, Rock Island & Gulf Railway beginning with June, 1939.

¶ Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.

|| Includes Boston & Albany, lessor to New York Central R. R.

|| Includes Southern Pacific Company, Texas & New Orleans R. R., and leased lines. The report contains the following information: "Figures reported above for Southern Pacific Transportation System exclude offsetting debits and credits for rent for leased roads and equipment, and bond interest, between companies included therein. Operations for 1939 of separately operated solely controlled affiliated companies (not included in above statement), resulted in a net deficit of \$403,457 for the month and \$4,135,525 for the period. These results include \$211,172 for the month and \$1,689,377 for the period, representing interest on bonds of such companies owned by Southern Pacific Company not taken into income by Southern Pacific Company and, therefore, not included in the 1939 income results for the system reported above. The combined results for 1939 for Southern Pacific Transportation System and separately operated solely controlled affiliated companies for the month amounted to a net income of \$620,720 and for the period a net deficit of \$3,689,279."

ficit of \$182,724,793 for last year's first eight months.

Sixty-nine roads reported net incomes for August, while 62 reported net deficits; in August, 1938, there were 61 net incomes and 70 net deficits. The consolidated statement and that showing the net incomes or net deficits of roads having operating revenues above \$25,000,000 are shown in the accompanying tables.

A. A. R. Acts to Prevent Congestion at North Atlantic Ports

"Because of the possibility, under existing conditions, that there will be a substantial increased movement of export freight, the Association of American Railroads, through its Car Service Division, will put into effect at once a plan for preventing any possible congestion at the principal North Atlantic ports," said A. A. R. President J. J. Pelley, in a statement issued on November 7.

Under that plan G. C. Randall of Chi-

cago chairman, General Committee of the Operating-Transportation Division of the Association, has been appointed manager of the Car Service Division in charge of port traffic and will be in charge of the system that has been set up for controlling the movement of rail traffic to ports to the extent necessary to prevent the accumulation of more traffic at those points than can be unloaded promptly. Mr. Randall will be located at 30 Vesey Street, New York City.

In order to assist the manager of port traffic in the supervision of the control established with respect to the North Atlantic ports, an advisory committee will be appointed consisting of five railroad representatives. The personnel of this advisory committee will be: One representing the ports in New England; one representing the entire New York harbor area and Hudson River ports; one representing Delaware River ports including Trenton, Camden, Philadelphia, and Wilmington;

one representing Baltimore and vicinity, and one representing Hampton Roads and the Potomac and James Rivers ports. In addition, there will be appointed if necessary local committees at each of these ports to aid in handling the local situation. A representative of the A. A. R. will be stationed at each of these points and will act as chairman of the local committee.

In the New York harbor area, an operating committee, working under the direction of the New York General Managers Association, will be in constant contact with the manager of port traffic and his advisory committee. A committee to cooperate with the manager of port traffic has been appointed by the Atlantic States Shippers' Advisory Board which includes in its region the ports of New York, Philadelphia, Wilmington and Baltimore. To this committee, the Board also has added representatives of New England ports and the Hampton Roads district.

Regulations on Unemployment Insurance Contributions

Regulations covering contributions by employers under the Railroad Unemployment Insurance Act have been approved by the Railroad Retirement Board, effective October 1.

Contributions are payable by covered employers, with respect to employment on or after July 1, at the rate of 3 per cent of monthly compensation. No contribution is payable, however, on monthly compensation in excess of \$300 whether or not the aggregate amount is paid by one or more employers.

Contributions are payable on a quarterly basis directly to the Chief Cashier of the Railroad Retirement Board at Washington, D. C. They are due on or before the last day of the second calendar month following the period which they cover. They must be paid without assessment or notice.

In addition to the employers' reports of monthly compensation as required under the Railroad Retirement Act, each employer must file with the Board as employers' contribution report for the three calendar months ending September 30 and for each subsequent period of three calendar months, ending December 31, March 31, June 30, and September 30, respectively, of each year. These reports are due on the same date as the quarterly contributions which cover the period.

Provision is also made in the regulations for adjustments for overpayments or underpayments, refunds, assessments, interest on late contributions, penalties for failure to pay assessments, and for delinquent or false reports.

Interior Department and S. P. Enter Land-Use Agreement

What an Interior Department announcement calls "an important step in large-scale, cooperative, land-use planning under the principles of the Taylor Grazing Act" was inaugurated on November 1 upon completion of plans for the consolidation of about 10 million acres of "checker-boarded" public and railroad lands in Utah and Nevada.

This consolidation, the announcement says, was made possible by the signing of

an agreement by Secretary of the Interior Harold L. Ickes with the Southern Pacific Land Company of San Francisco, Calif., providing for systematic management of all the lands within the limits of the Central Pacific Railroad grant in accordance with the Federal Range Code.

Under the agreement, the Land Company will turn control of its lands over to the Grading Service for a period of one year to permit their administration in the same manner as the federal range, including the issuance of grazing licenses or permits to stockmen who qualify under the rules of the Secretary of the Interior.

The original grant to the Central Pacific, now a part of the Southern Pacific system, included the alternate sections of land within a 20-mile limit of the right-of-way extending westward from Promontory Point in Utah to the junction of the Southern Pacific Grant in California. "Like the adjacent public domain; this land" the Interior Department statement says, "is arid and unattractive to private ownership but is eminently important to the successful conduct of the range livestock business in that locality."

Unemployment Insurance Decisions

A claimant working on his own farm during a period of unemployment was held qualified for unemployment insurance benefits in a recent Railroad Retirement Board decision under the Railroad Unemployment Insurance Act. He was declared available for work and not receiving remuneration.

The claimant in this case lived six miles from town but was registered with the state employment service and could be reached by telephone. This was accepted as evidence that the claimant was "holding

himself out for work" and that he was in a position to receive notice of work from the carrier and from the state employment service. Since his brother operated the farm in his absence, the decision held that he was not prevented by his situation from accepting suitable work which might be offered him. It was decided, therefore, that the claimant was available for work. "Since the claimant, while operating his own farm, is self-employed, his earnings from such work are not remuneration and do not prevent days spent in such work from being days of unemployment," the decision pointed out further.

In another decision a claimant who refused a call for work after he had been granted permission to lay off was disqualified because he was not available for work. The decision was rendered in the case of an extra yard switchman who was granted permission to attend to personal matters on a Sunday when he had been called for work.

"While the call for work was an offer," the decision states, "the granting of the claimant's request for leave was equivalent to the withdrawal of that offer. The claimant did not, therefore, fail to accept work 'offered to him' and is not subject to the disqualification provided for in Section 4 (a) (ii) of the Railroad Unemployment Insurance Act. Since the claimant, however, chose to attend to certain personal matters rather than to work on the Sunday in question, he was unavailable for work on that day."

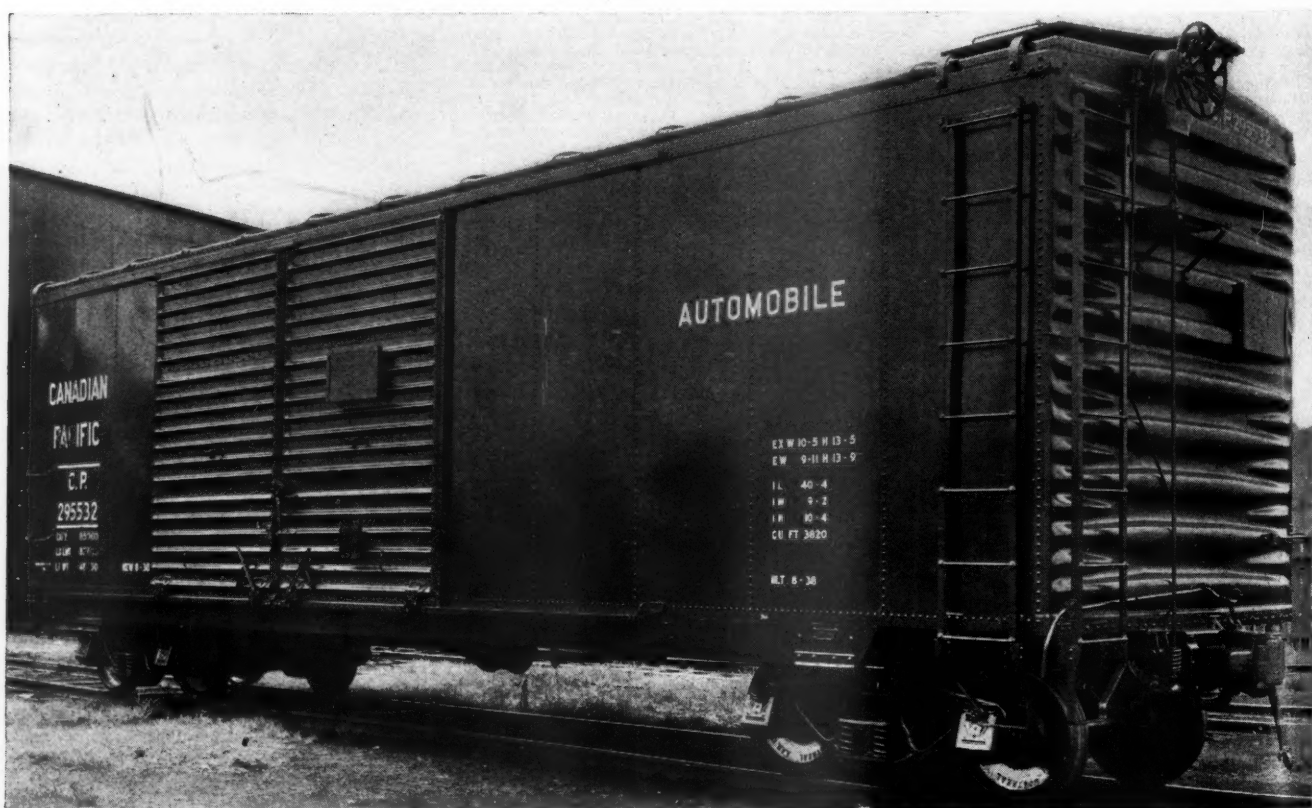
New Haven Loses Case in Supreme Court

Two cases of interest to the railroad industry were decided by the United States

Supreme Court on November 6. In one case, that of Palmer, et al. v. Commonwealth of Massachusetts, the Court affirmed a decision of the United States Circuit Court of Appeals for the Second Circuit, which had held that a bankruptcy court in charge of railroad reorganization proceedings under section 77 of the Bankruptcy Act is without power to order the discontinuance of intrastate passenger service of a railroad without authorization by the State regulatory body having jurisdiction.

Justice Frankfurter, who wrote the opinion of the Court, gave the facts of the case at the outset of his opinion. On December 28, 1937, the bankruptcy trustees of the New York, New Haven & Hartford, acting under the requirements of Massachusetts law, applied to that state's Department of Public Utilities for leave to abandon 88 passenger stations. Twenty-one hearings were held by the Department on the questions raised by the application. During the pendency of these hearings and before the Department had taken any action, the present case was initiated in the New Haven District Court by creditors of the debtor company for an order directing the trustees to abandon these local services.

The trustees joined in the petition, while the Commonwealth of Massachusetts denied the jurisdiction of the court and asked that the proceedings before the Department be allowed to reach fruition. The district judge ruled that section 77 gave him the responsibility of disposing of the petition on its merits, and gave the relief asked for, the same relief which the trustees had requested from the State authorities. The Circuit Court of Appeals for the Second Circuit held that the district judge



One of an Order of 50 Automobile Cars Built for the Canadian Pacific by the Canadian Car & Foundry Co.

had no such authority under the Bankruptcy statute, and the Supreme Court affirmed that finding. As a result, the case will have to be determined by the State Department of Public Utilities.

In another case, *Texas Electric Railway Company versus Eastus, et al.*, the Court without opinion, and upon the authority of the *Shields Case*, 305 U. S. 177, affirmed the decision of the United States District Court for the Northern District of Texas, which had held that the Texas Electric was subject to the Railway Labor Act.

Roads Move To Recover L. C. L.

(Continued from page 759)

having found that forwarders were left unregulated by the Interstate Commerce Act, has ordered their tariffs stricken from its files. Thus the forwarders remain free to reduce their rates over night to meet any schedules published by the railroads; also, the railroads may have some difficulty in ascertaining the forwarder rates which they desire to meet.

The Pennsylvania move to meet the competition of the forwarder served to recall its position in the commission's Freight Forwarding Investigation. In its report in that proceeding, reviewed in the *Railway Age* of November 19, 1938, the commission noted that "most of the respondents handling considerable forwarder traffic appear eager to retain the forwarder as at present, but possibly with some regulation;" although "a few of the important trunk lines, among them the Pennsylvania, which, in proportion to its total merchandise traffic, handles relatively little forwarder traffic do not share the view that the forwarder is a necessary transportation agency." The commission's "major finding of fact" in this connection was that "this record reveals no persuasive reason why the rail lines could not, by appropriate cooperative effort, afford an efficient service on l. c. l. forwarder traffic, including collection and delivery thereof, either by themselves or through one or more wholly owned and controlled agencies, at l. c. l. rates specially designed to attract such traffic, and thus retain for themselves the entire profits from such service."

District Court Upholds N. J. Carriers in Tax Hold-back

Federal District Court Judge Phillip Forman, on November 2, issued a permanent injunction restraining the state of New Jersey from collecting more than 60 per cent of its tax levies on railroads for 1934, 1935 and 1936. In his 62-page decision the judge declared that he would continue the restraint "until such time as the taxing authorities of New Jersey revalue the property". He found fault particularly with the failure of state assessors to consider "the rise and fall of earnings" in fixing their valuations, adding that "it is their duty to reflect these earnings in

the assessments, and it cannot possibly present a burdensome difficulty to them in view of the fact that the assessments are not completed until approximately two years after the year in question . . . earnings in such cases are a result of mathematical calculation."

This decision differs from that rendered by Judge Forman respecting taxes withheld by certain of the carriers for 1932 and 1933 in which the state's claim to the entire assessment was upheld. In that instance it was held that the railroads had not presented a convincing case for a proper basis of taxation; that "the method suggested by them appears as arbitrary as they charge that of the taxing authorities to be, unsupported by the necessary underlying proof of the accuracy of their calculations." The court did state, however, that its decision was not to be construed as precluding an investigation of the methods used by the state in determining true value.

Five railroads made part payment of a total of \$3,116,889 on account of withheld taxes for 1932 and 1933, on November 2. In consideration thereof, the state attorney-general consented to a 30-day postponement of proceedings to December 5 to secure summary judgment against the roads for collection of tax delinquencies for those years.

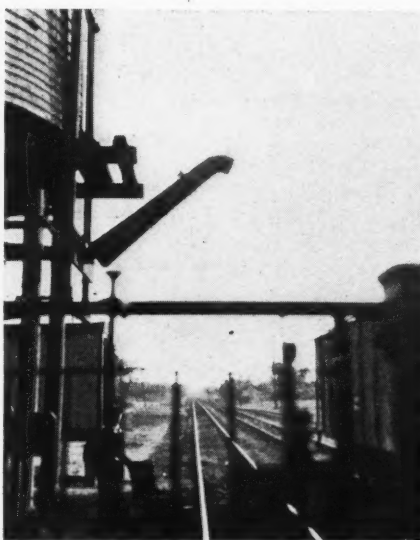
Sues to Jack Up Red Caps' Wages

(Continued from page 758)

statement says, (1) That each of the red caps must report to the company all tips received daily from the traveling public, (2) the company guaranteed that each employee would receive the minimum wage provided by the Wage-Hour law, including tips, (3) that each employee was authorized to retain all tips received except deductions made for the Railroad Retirement tax.

The suit filed was an outgrowth of an

* * *



View From an Observation Platform as Flagman Listens for his Four Toots

investigation conducted several months ago, and the above-mentioned hearing before Mr. Peck. In his report Mr. Peck cited testimony which he interpreted as showing that the "records kept by the carriers as tips reported as received by the red caps do not accurately represent the tips received by these men. Numerous red caps testified that they padded their reports when they made less than 25 cents an hour in tips. The reason for this false reporting of tips was said to be the fear of discipline or discharge by the carriers for failing to report the minimum. It appears to have become well-nigh the universal practice to report \$2 (the minimum wage prior to Oct. 24) each and every day, even in cases where the men have always received considerably more than \$2 in the past."

In his findings and recommendations, Mr. Peck declared that "there is grave legal doubt as to the validity under the Fair Labor Standards Act of the accounting and guarantee arrangement which the carriers have used." He recommended that the Wage and Hour Division take immediate steps through court action to determine the validity of the contract in force in the Cincinnati Terminal, the terms of which it is alleged are in general practice in railroad terminals throughout the country. He also recommended that employers be required to keep records showing separately from other amounts paid as wages, the amount of tips which are claimed by the employer to be wages paid. These recommendations were incorporated in amendments to regulations which became effective October 13. In the complaint the defendant terminal company is charged with failing to pay the minimum wage; failure to keep adequate records; and falsification of records. The suit asks the court to enjoin and restrain the terminal company from continuance of these unlawful practices.

Can I. C. C. Veto Firing by RRs?

(Continued from page 758)

promote the public interest in the consolidation of railroads. The government would place a broader interpretation on the wording of the statute, taking the position that "power is given to the commission to enforce just and reasonable conditions for all parties to the transaction."

Further buttressing his position, the government attorney pointed out how these conditions would fit in with the general picture of government regulation in the railroad industry, an industry in which the Supreme Court had upheld governmental regulation of wages, collective bargaining, hours of service, and the forced installation of safety devices for the protection of employees.

In an attempt to show that such labor conditions are not foreign to the railroad industry, he cited the case of an agreement between the Baltimore & Ohio and its employees on a particular line in which the road agreed to pay to the displaced em-

ployees the entire savings for one year which accrued because of the abandonment of a line and the use of trackage rights over another line. Another case in point, said Mr. Wilson, was that of the Union Pacific which agreed to pay a year's salary to office employees in various divisional offices when those offices were consolidated into one central office at Omaha, Nebr., a few years ago.

The government does not contend, continued the government attorney, that this case comes within the purview of the "Washington Agreement" because that agreement specifically provides that intra-system mergers are exempted. He further warned that this situation had all the seeds of a potential labor dispute which might grow to great magnitude if some such agreement were not entered into between the management and the employees. He closed his argument by contending that the entire lease agreement including the labor conditions is what the commission approved and the lower court, by removing the conditions, permitted the railroad to do something which the commission does not approve. To permit this, he contended, would be allowing the court to infringe upon the administrative discretion of the commission. This, the Court has frowned upon in recent decisions.

Mr. Peter contended that the Interstate Commerce Act deals only with the interests of the travelling and shipping public and that the employee has no more right to have his interest in his job protected than does a storekeeper the continued trade of his customers. He then pointed out that the Act sets up only two standards which the commission must consider in determining whether a proposed merger or consolidation should be authorized. These are, he said, whether the proposed merger is in harmony with the commission's official plan of consolidation and whether such a plan will promote the public interest.

Other people besides the employees have a direct interest in this case, Mr. Peter asserted. The storekeepers in Fort Worth are just as much interested in retaining their customers as are the employees in retaining their jobs, he told the Court. "Why can't the commission protect the storekeepers just as much as the employees?" Mr. Peter asked. Also, he added, the various communities and taxing bodies might have a very real interest in retaining the offices in Fort Worth, but the commission has no power to take their plight into consideration.

"If this power exists," Mr. Peter stated, "it should be clearly set out in the statute rather than being derived by interpretation of the statute." He further contended that recent attempts to get such a law passed demonstrates the fact that such power does not exist at present.

The Rock Island counsel also objected to the conditions on the ground that his company would virtually have to pay two unemployment insurance taxes, one to the government under the Railroad Unemployment Insurance Act, and one to the displaced men under the terms of the commission's conditions. This, he contended would be unfair and would give the unemployed railroad worker whose unemploy-

ment resulted from a merger a double payment for the time that he was unemployed, while the ordinary unemployed railroad worker would receive only one compensation from the government.

Finally, Mr. Peter answered the government's argument that separating the various parts of the commission's decision invalidates the whole decision by citing several cases recently decided which uphold the principle that a part of a commission order may be invalidated without striking down the entire order. He said that it is well established that such orders can be separated, and he urged the Court to affirm the decree of the lower court and permit the merger by lease exclusive of the labor conditions.

Leopoldina Railway Gets Loan from Brazilian Government

Loans totaling about \$3,500,000 will be granted to the Leopoldina railway and the Great Western of Brazil by the Brazilian federal government for the purchase of new rolling stock and the rehabilitation of existing equipment and roadway, according to recent government decrees. Orders for materials to be purchased under the loans must be placed through bids by the company after approval by the Ministry of Transport & Public Works. All work paid for by the loans must be concluded three years after approval of the program. Re-payment of the loans will be made from any net income exceeding a 6 per cent return on invested capital.

Air-Conditioned Cars on South African Railways

Two new trains of air-conditioned all-steel cars have been placed in service by the South African Railways between Johannesburg and Cape Town, operating as the "Union Limited" from Johannesburg each Thursday and as the Union Express from Cape Town on Mondays. Rolling stock consists of 12 sleeping cars, two lounge cars, two dining cars, two combination kitchen and employees' sleeping cars and one baggage car. The underframes are constructed of rolled steel sections riveted together to which in turn are riveted the body sections, thus achieving sufficient strength to make unnecessary under-trussing, which latter is customary in South African rolling stock.

* * *



Winding up a Heavy Cut

Construction

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—A contract has been awarded Lupinski, Inc., Milwaukee, Wis., for the construction of concrete foundations for extensions and improvements in the wheel foundry and other shop units at the car shops in West Milwaukee. The entire cost of the project including new equipment to be installed will be approximately \$115,000.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—An additional boiler is being installed at the enginehouse at Sharonville, Ohio, and stokers are being installed on the two old boilers at an estimated cost of \$30,000.

NORTH KANSAS CITY BRIDGE.—This company has asked the Interstate Commerce Commission for authority to construct 5,200 ft. of overhead crossings and approaches and some two miles of switching and industrial tracks in North Kansas City, Mo.

PENNSYLVANIA.—A contract has been awarded the Ogle Construction Company, Chicago, for the construction of a 1,200-ton reinforced concrete coaling station at Columbus, Ohio. This project, together with track changes and other work, will cost approximately \$100,000.

SOUTHERN PACIFIC.—A contract has been awarded to the Missouri Valley Bridge and Iron Company, Leavenworth, Kan., for the construction of a trunnion pier and an anchor pier for a 230-ft. single track through abutment type bascule span with a 92-ft. tower span over the Neches river at Beaumont, Tex., and a contract for the design, fabrication and erection of the superstructure of this bridge has been awarded to the American Bridge Company, Pittsburgh, Pa.

STATEN ISLAND RAPID TRANSIT RAILWAY COMPANY (BALTIMORE & OHIO SUBSIDIARY).—Bids will be received November 2, by H. A. Lane, chief engineer, at the office of assistant engineer, Springfield building, Great Kills, Staten Island, New York, for supplemental building construction in connection with grade crossing elimination project at Tottenville, Staten Island.

TEXAS & PACIFIC and SOUTHERN PACIFIC.—A contract, amounting to approximately \$300,000, has been awarded the Pittsburgh-Des Moines Steel Company, Des Moines, Iowa, by the Louisiana State Highway Commission for the construction of a bridge for the Boutte-Mississippi River Bridge highway in Jefferson Parish over the tracks of the Texas & Pacific and the Southern Pacific. The bridge, which will be 1409 ft. long, will consist of 33 I-beam spans varying from 30 to 80 ft. in length, supported on concrete frame bents, with untreated timber pile footings. The bridge will provide two lanes each 23 ft. 7½ in. wide, separated by a low curb 2 ft. 6 in. wide. The work also includes paving 1,790 ft. of roadway approaches.

Equipment and Supplies

FREIGHT CARS

THE NEWBURGH & SOUTH SHORE has ordered 100 gondola cars of 50 tons' capacity, from the Magor Car Corporation.

THE LAKE TERMINAL RAILWAY is inquiring for 100 or 200 gondola cars of 70 tons' capacity.

THE UTAH COPPER COMPANY has ordered 100 ore cars from the Pressed Steel Car Company in addition to the 100 reported in the *Railway Age* of October 14.

ARGENTINE STATE RAILWAYS.—An order has been placed through the Railway Equipment Argentina, S. A., with the Pullman-Standard Car Export Corporation, for 200 tank cars for service in Argentina. Jorge Castro Madero, chief stores division, San José 180, Buenos Aires, S. A.

THE ELGIN, JOLIET & EASTERN has placed orders for 1,400 cars, all of 50 tons' capacity, including 500 gondola cars to the Mt. Vernon Car Manufacturing Company and 300 hopper cars to each of the following builders: Ralston Steel Car Company, Pullman-Standard Car Manufacturing Company, and the General American Transportation Corporation. This is in addition to the 650 cars ordered by this company from the American Car & Foundry Co., and reported in the *Railway Age* of November 4, page 725.

THE DELAWARE, LACKAWANNA & WESTERN has ordered 1,100 freight cars for early delivery; of these 500 steel hopper cars of 50 tons' capacity and 100 steel gondola cars of 70 tons' capacity will be built at the Berwick, Pa., plant of the American Car & Foundry Co., and 500 steel box cars of 50 tons' capacity will be built at the Passaic, N. J., plant of the Magor Car Corporation. Orders for this equipment supplement the program inaugurated recently by the Lackawanna of rebuilding 600 steel hopper cars in its Keyser Valley shops, Scranton, Pa.

SIGNALING

THE BOSTON & MAINE has placed orders with the Union Switch & Signal Co., covering automatic block signaling materials for installation over the new Piscataqua River bridge between Emery, N. H., (Portsmouth), and Kittery Jct., Maine, and also for providing either direction signaling, on one of the main-line tracks of the Portsmouth division branch due to relocation of this branch made necessary by the construction of the new bridge. Searchlight signals are being used, with the field installation handled by the railroad company's signal construction forces.

IRON AND STEEL

THE CHICAGO, BURLINGTON & QUINCY has ordered 30,000 tons of rails placing

4,500 tons with the Carnegie-Illinois Steel Corporation, 12,500 tons with the Colorado Fuel & Iron Co., and 5,000 tons with the Inland Steel Company.

THE NEW YORK CENTRAL is now inquiring for its rail requirements.

THE DELAWARE, LACKAWANNA & WESTERN has placed orders for 5,000 tons of rail.

NEW YORK CENTRAL.—A contract has been given to the American Bridge Company for about 2,500 tons of steel for viaduct construction at 35th street, on the west side of New York City.

Supply Trade

The Symington-Gould Corporation, Rochester, N. Y., has dissolved its wholly-owned subsidiary, **Gould Coupler Corporation**. The Depew plant will be operated as the **Gould Coupler Works** of the Symington-Gould Corporation with no change in local management.

The Armco Culvert Manufacturers Association, Middletown, Ohio, has adopted a new name, the **Armco Drainage Products Association**, without change in officers. The new name has been adopted because of the increasing use and importance of products other than corrugated culverts manufactured by the members of this association, such as perforated corrugated pipe for subdrains, asbestos-bonded paved invert pipe for sewers and multi-plate pipe and arches for small bridges.

Frederick J. Griffiths, for the past three years president of the Griffiths-Bowman Engineering Company, has been appointed executive vice-president in charge of the newly-created **Alloy-Steel Division** of the **Copperweld Steel Company**, Glassport, Pa. Mr. Griffiths served from 1913 to 1926 with the Central Steel Company in positions ranging from general superintendent to president and general manager. From 1926 to 1929, at which time Central merged with the Republic Steel Corporation, he was chairman of the board of the Central Alloy Steel Corporation and then to 1931 he was president of the Republic Research Corporation and a member of the board of the Republic Steel Corporation. Subsequently he served as president of the Timken Steel & Tube Co., and a member of the board of Timken Roller Bearing Company. For the past three years, he was president of the Griffiths-Bowman Engineering Company, and is also a director in a number of other industrial companies.

OBITUARY

Karl J. Lamcool, who served for about two years as a member of the sales force of Manning, Maxwell & Moore, Inc., New York, died on October 29 after a brief illness. Mr. Lamcool had previously served on the Chicago, Indianapolis & Louisville.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Abandonment by the Gulf, Colorado & Santa Fe.*—The Gulf, Colorado & Santa Fe has asked the Interstate Commerce Commission for authority to abandon a portion of its Somerville District, extending from Peel Junction, Tex., to Montgomery, 0.55 mile.

ATCHISON, TOPEKA & SANTA FE.—*Abandonment by the Healdton & Santa Fe and the Gulf, Colorado & Santa Fe.*—The Healdton & Santa Fe and the Gulf, Colorado & Santa Fe respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation of a line consisting of one mile, 869.6 ft. of main line track and 5,118 ft. of side track in Ardmore, Okla.

ATCHISON, TOPEKA & SANTA FE.—*Equipment Trust Certificates.*—This company has been authorized to assume liability for \$8,000,000 of 2½ per cent equipment trust certificates, maturing in 10 equal annual installments of \$800,000 on November 1 in each of the years from 1940 to 1949, inclusive. The issue has been sold at 101.899 to the First Boston Corporation of New York City, and associates, making the average annual cost of the proceeds to the company approximately 2.14 per cent.

BOSTON TERMINAL.—*Reorganization.*—The New England Mutual Life Insurance Company, the Massachusetts Mutual Life Insurance Company, and Frederick R. Sears, creditors, have petitioned the United States District Court in Boston, Mass., asking that this company be placed in reorganization under section 77 of the Bankruptcy Act. The petition alleges that the company failed to pay \$91,073 of interest due on its bonds on November 1, 1939.

CLARION RIVER.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a line extending from Croyland, Pa., to Carmern, 4,059 ft.

ERIE.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for \$3,000,000 of 2½ per cent equipment trust certificates, maturing in payments of \$150,000 on June 1, 1940, and December 1, 1940, and \$150,000 semi-annually on June 1, and December 1, in each of the years thereafter, to and including December 1, 1949.

KANSAS CITY SOUTHERN.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to sell to Harriman, Ripley & Company of New York, for 104 per cent of par and accrued interest, \$639,000 of the \$1,917,000 of its three per cent equipment trust certificates, Series F, which were issued in 1936 and sold at par to the Bankers Trust Company of New York in the latter's capacity as trustee under the K.C.S. first mortgage. The Harriman, Ripley & Company bid, which would make the aver-

age yield 2.15 per cent, was the highest received for the three installments of the certificates maturing \$213,000 on January 1, 1944, 1945 and 1946.

LEHIGH & NEW ENGLAND.—*New Director Elected.*—Harvey C. Couch, chairman of the boards of the Kansas City Southern and the Louisiana & Arkansas, was elected a member of the board of managers of the Lehigh Coal & Navigation Company, the parent company of the Lehigh & New England, at a meeting in Philadelphia, Pa., November 3.

LOUISVILLE & NASHVILLE.—*Equipment Trust Certificates.*—Harriman Ripley & Co., Inc., New York, has been awarded a new issue of \$2,025,000 equipment trust certificates of this road maturing \$135,000 annually December 1, 1940 to 1954. The award was made on the basis of a bid of 104.2987 at 2¾ per cent interest.

LOUISVILLE & NASHVILLE.—*Joint Operation.*—This company has asked the Interstate Commerce Commission to vacate its order of January 13, 1927, authorizing it to operate over 4.08 miles of line of the Alabama State Docks Commission and 5.3 miles of line of the Gulf, Mobile & Northern in Mobile, Ala. The petition states that although a contract was made for the joint operation, it was never consummated as the need for the operation did not materialize.

NORFOLK SOUTHERN.—*Plan of Reorganization.*—The Norfolk Southern Railway, a new company organized to take over the assets of the Norfolk Southern Railroad, has asked the Interstate Commerce Commission for authority to issue certain securities to be exchanged for the securities of the old company which has been reorganized under the old equity procedure of the Bankruptcy Act. The new plan, which calls for a capitalization of \$18,509,129 as compared with the old capitalization of \$38,652,408, has been approved by the United States District Court for the Eastern District of Virginia, and the petition goes on to state that all the various bondholders' committees have informally agreed to the plan. Under the equity procedure the commission does not have to approve the plan, but only the securities issued thereunder.

The fixed and contingent charges of the new capitalization will amount to \$846,991 as compared with \$890,040 for the old company; while the fixed charges will be \$296,300 as contrasted with \$890,040. The new company will have outstanding capital stock in the amount of \$6,109,829 as against \$16,000,000 for the old company; while the total funded debt will be \$12,399,300 as contrasted with \$22,652,408. The plan provides for a contingent interest debt of \$6,892,300 with a total contingent charge of \$550,691.

The new company has asked the commission for authority to issue \$1,221,000 of equipment trust certificates; \$368,000 of 20-year four per cent secured notes; \$3,918,000 of first mortgage 4½ per cent bonds; \$6,892,300 of general mortgage convertible income bonds; 350,000 shares of no par common stock, and common stock purchase warrants for not in excess of

4,800 shares of no par common stock. The company also requests authorization of the conditional issuance of \$404,800 of first mortgage 4½ per cent bonds; and for the authorization of the assumption of liability as guarantor in respect of \$700,000 and interest thereon of the 10-year 1½ per cent serial notes of the Norfolk & Portsmouth Belt.

OKLAHOMA RAILWAY.—*Trustees appointed.*—Robert K. Johnson and H. R. Hudson, chairman of the board of the Oklahoma Railway, have been appointed trustees.

PENNSYLVANIA.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon the following lines: Catawissa Branch, extending from Catawissa, Pa., to Scotch Valley, 11.2 miles; Mahaffey Branch, extending from Mahaffey, Pa., to Ostend, 1.7 miles; Moshannon Branch, extending from McCartney, Pa., to its terminus at valuation station 1165 plus 46, 1.1 miles; and the Youghiogeny Branch, extending from Cowansburg, Pa., to Cereal, five miles, a total of 18.9 miles.

SOUTHERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its Hawkinsville Branch, extending from Cochran, Ga., to Hawkinsville, 10.3 miles.

UTAH IDAHO CENTRAL.—*Receiver appointed.*—P. H. Mulcahy, vice-president and general manager of the Salt Lake & Utah, with headquarters at Salt Lake City, Utah, has been appointed also receiver of the Utah Idaho Central, with headquarters at Ogden, Utah.

VENTURA COUNTY.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its De Bo spur track on the Round Mountain Branch in Ventura County, Calif., 1.1 miles, together with 0.19 mile of side track.

WRIGHTSVILLE & TENNILLE.—*Abandonment, Acquisition and Operation.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from Southwest Junction, Ga., to Eastman, 28.5 miles, and for authority to acquire from the Southern that portion of its Hawkinsville Branch extending from the Wrightsville & Tennille Junction east of the Ocmulgee River to the passenger depot of the Southern in Hawkinsville, Ga., together with appurtenances, one mile. The company also requests authority to operate the one-mile branch to be acquired from the Southern.

Dividends Declared

Kansas City Southern.—Preferred, \$1.00, payable December 8 to holders of record November 20.

Richmond, Fredericksburg & Potomac.—6 Per Cent Guaranteed, \$3.00, semi-annually; 7 Per Cent Guaranteed, \$3.50, semi-annually, both payable November 1 to holders of record October 31.

Average Prices of Stocks and Bonds

	Nov. 8	Last week	Last year
Average price of 20 representative railway stocks..	33.91	34.43	33.17
Average price of 20 representative railway bonds..	60.19	60.48	62.31

Railway Officers

EXECUTIVE

A. C. DeBolt, president of the Oklahoma Railway, has been appointed chief operating officer for the trustees, with headquarters as before at Oklahoma City, Okla.

J. N. Flowers, general counsel of the Gulf, Mobile & Northern, with headquarters at Mobile, Ala., has been elected vice-president and general counsel, with the same headquarters.

Charles E. Denney, president and a director of the Northern Pacific, has been elected also president of the Spokane, Portland & Seattle, succeeding **Charles Donnelly**, former president of the Northern Pacific, whose death on September 4, was announced in the *Railway Age* of September 9.

B. W. Scandrett, vice-president of the Northern Pacific and of the Minnesota & International, has been elected also president of the Gilmore & Pittsburgh, with headquarters as before at St. Paul, Minn., succeeding **W. N. Bichler**, whose appointment as manager of the Cowlitz, Chehalis & Cascade, with headquarters at Chehalis, Wash., was announced in the *Railway Age* of October 7.

Chester C. Kratky, assistant to the chief operating officer of the St. Louis-San Francisco, has been promoted to assistant to the trustee, with headquarters as before at St. Louis, Mo., succeeding **Lucien E. Martin**, who has retired, and **C. P. King**, assistant to the general manager, with headquarters at Springfield, Mo., has been promoted to assistant to the chief operating officer, with headquarters at St. Louis, replacing Mr. Kratky.

James C. James, vice-president and general counsel of the Chicago, Burlington & Quincy and general counsel of the Colorado & Southern, the Fort Worth & Denver City and the Wichita Valley, with headquarters at Chicago, has been elected also vice-president of the C. & S., the F. W. & D. C. and the Wichita Valley. A photograph and biography of Mr. James were published on page 688 of the *Railway Age* of November 5, 1938, at the time of his promotion to general counsel.

FINANCIAL, LEGAL AND ACCOUNTING

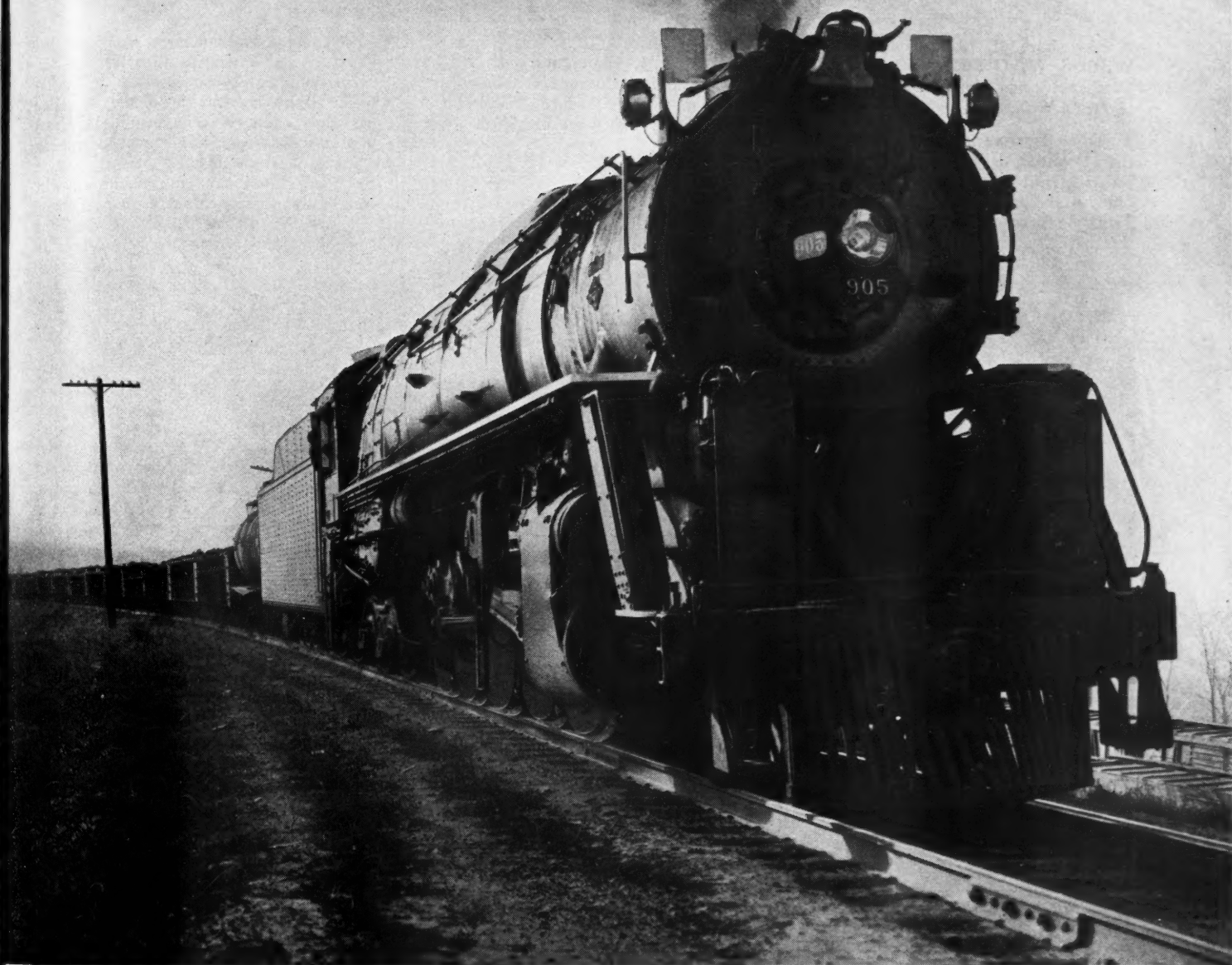
F. Earl Walter, assistant general attorney of the Delaware, Lackawanna & Western, with headquarters at New York, has been appointed claims attorney.

H. M. Friedel, auditor of the Salt Lake & Utah, has been appointed also auditor for the receiver of the Utah Idaho Central with headquarters as before at Salt Lake City, Utah.

Robert E. Keefe has been appointed auditor for the receiver of the Chicago,

Continued on next left-hand page

LIMA POWER AT WORK



This heavy 2-10-4 type locomotive was recently delivered by Lima to the Kansas City Southern

PREPARE FOR IMPROVED BUSINESS *with improved power*

Increased railroad traffic now necessitates the purchase of new motive power units. » » » Get the most out of the increased volume of business by handling it with the most efficient locomotives which can be built. » » » Super-Power Locomotives provide 25% to 30% more power at speed than locomotives ten years old and older—with a corresponding increase in efficiency.

LIMA LOCOMOTIVE WORKS,



INCORPORATED, LIMA, OHIO

North Shore & Milwaukee, succeeding **William W. O'Toole**, whose death on October 16, was reported in the *Railway Age* of October 21.

James Lorimer, general statistician in the accounting department of the Canadian Pacific, with headquarters at Montreal, Que., has been appointed general auditor. **James Norman Lennie**, statistician in the statistical bureau, has been appointed general statistician in the accounting department.

Streeter B. Flynn has been appointed attorney for the trustees of the Oklahoma Railway, with headquarters at Oklahoma City, Okla. **James B. White**, general claim agent, has been appointed general claims attorney, with headquarters as before at Oklahoma City, a newly created position.

C. M. Scott, local treasurer of the Southern Pacific at San Francisco, Cal., has been appointed also treasurer of the Visalia Electric Railroad, with headquarters at San Francisco, succeeding **M. S. Wade**, who has resigned, and **L. J. Masson**, assistant general auditor of the Southern Pacific, with headquarters at San Francisco, has been appointed also auditor of the Visalia Electric, with headquarters at San Francisco, replacing **L. A. Lovell**, who has resigned.

OPERATING

L. B. McGivney has been appointed manager of the Gilmore & Pittsburgh, with headquarters at Armstead, Mont.

George Y. Duffy has been appointed assistant general manager of the Port Huron & Detroit, with headquarters at Port Huron, Mich., a newly created position.

J. U. Zepeda has been appointed acting division superintendent on the Southern Pacific of Mexico, with headquarters at Empalme, Son., relieving **D. Gomez**.

F. M. Woodall, assistant superintendent on the Louisville & Nashville at Louisville, Ky., has retired. No successor has been appointed.

C. E. Lister, chief dispatcher on the Canadian Pacific at Calgary, Alta., has been promoted to assistant superintendent, with the same headquarters, succeeding **J. W. Wilkes**, whose promotion to superintendent, with headquarters at Calgary, was announced in the *Railway Age* of November 4.

W. J. Browne, electrical and mechanical engineer of the Salt Lake & Utah, has been appointed also superintendent of maintenance, power and equipment of the Utah Idaho Central, with headquarters at Ogden, Utah, and **C. B. Higgins** has been appointed superintendent of transportation of the Utah Idaho Central, with headquarters at Salt Lake City, Utah.

Stanley F. Pitcher, superintendent of organization of the southern departments of the Railway Express Agency, with headquarters at Atlanta, Ga., has been transferred in a similar capacity to the

executive offices at New York, succeeding the late **E. J. Flanagan**. Mr. Pitcher's new position includes his assignment as chairman of the Standard Practices Committee, reporting to the president.

J. F. Alsip, assistant superintendent on the Northern Pacific at Tacoma, Wash., has been promoted to superintendent of the Tacoma division, with the same headquarters, succeeding **Roger T. Taylor**, whose death on October 14, was announced in the *Railway Age* of October 21. **C. H. Burgess**, trainmaster on the Tacoma division, has been promoted to assistant superintendent at Tacoma relieving Mr. Alsip.

R. K. Bradford, who was superintendent of transportation of the Denver & Rio Grande Western until he was furloughed in October, 1938, has been appointed assistant general manager, with headquarters at Denver, Colo., and **W. R. McPherson**, acting superintendent of transportation, has been appointed superintendent of transportation, with headquarters as before at Denver.

A. L. Kline, superintendent of the New York division of the Erie, has assumed jurisdiction over the territory heretofore known as the Terminal division. The position of superintendent New York Terminal division has been abolished. **G. F. Raymus**, assistant division superintendent at Chicago, has been transferred in the same capacity to the New York division, with headquarters at Jersey City, N. J., **F. E. House**, chief trainmaster at Jersey City, has been appointed assistant superintendent of the New York division, with headquarters at Jersey City. The position of chief trainmaster has been abolished. **M. G. McInnes** has been appointed assistant superintendent at Chicago, succeeding Mr. Raymus.

J. H. McKinnon, whose promotion to general superintendent of the Alberta district of the Canadian National, with headquarters at Edmonton, Alta., was announced in the *Railway Age* of November 4, was born at Whycocomagh, Cape Bre-



J. H. McKinnon

ton on June 7, 1883, and entered the service of the Canadian Northern (now part of the Canadian National), as a clerk in the freight department at Winnipeg, Man., later becoming chief clerk in the yard

office and the superintendent's office at that point. After serving as agent at Dauphin, Man., and warehouse foreman at Saskatoon, Sask., he was appointed traveling passenger agent at Winnipeg in 1909, and was later transferred to Toronto, Ont. In 1911, he was promoted to general agent at St. Paul, Minn., and in 1912, to district freight and passenger agent of the Duluth, Winnipeg & Pacific, (now part of the Canadian National), at Duluth, Minn. In January, 1917, Mr. McKinnon was promoted to general superintendent of the D. W. & P., with headquarters at Winnipeg, Man., his title and headquarters later being changed to superintendent at Virginia, Minn. In June, 1927, he was transferred to the Kamloops division, with headquarters at Kamloops, B. C., and in July, 1931, he returned to Virginia as superintendent of the D. W. & P. He was later transferred to Prince Albert, Sask., and in December, 1936, he was transferred to the Calgary division, with headquarters at Calgary, Alta., the position he held until his recent promotion, which was effective October 20.

TRAFFIC

E. A. Maynard has been appointed general agent for the Duluth, South Shore & Atlantic at Seattle, Wash., a newly created position.

K. C. McDannel has been appointed general freight agent of the Port Huron & Detroit, with headquarters at Port Huron, Mich., a newly created position.

Morton Harrington has been appointed general agent for the Green Bay & Western, with headquarters at Minneapolis, Minn., a newly created position.

J. V. Ryan, traveling freight agent on the Ann Arbor at Toledo, Ohio, has been promoted to general agent at New York succeeding **H. A. Mills**.

A. G. Donovan, Jr., traveling freight agent on the Texas & Pacific at Los Angeles, Cal., has been appointed general agent at New York, a new position.

H. W. Monson, traveling freight agent on the Minneapolis, St. Paul & Sault Ste. Marie at Minot, N. D., has been promoted to general agent at Thief River Falls, Minn., a newly created position.

R. E. Bagent, refrigerator service agent of the St. Louis-San Francisco, with headquarters at Springfield, Mo., has been appointed superintendent of refrigerator service, with the same headquarters, a change in title.

L. A. Flaskamper, traffic representative for the Terminal Railroad Association of St. Louis at St. Louis, Mo., has been promoted to general agent at Memphis, Tenn., a newly created position, and **J. Von Lehsten**, general agent at Detroit, Mich., has been transferred to Pittsburgh, Pa.

R. C. McLemore, commercial agent of the Atlanta, Birmingham & Coast, with headquarters at Atlanta, Ga., has been appointed general agent at Atlanta, succeeding **H. S. Rice**, who has been transferred

The Royal Train...

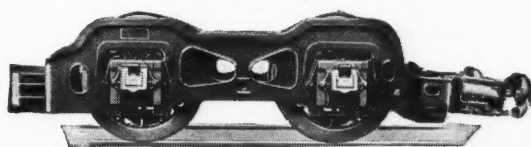
HAULED BY BOOSTER*-EQUIPPED LOCOMOTIVE



Royal Train Near Leancoil, B. C., Canadian Rockies.

THE royal train of Their Majesties King George VI and Queen Elizabeth was hauled by the beautiful, semi-streamlined, Canadian Pacific Railway engine 2850 on the 3200 mile journey across Canada. The Booster provided flexibility for all operating conditions. » » » Power, speed, appearance,

and comfort are outstanding features of this modern locomotive. With the added power of the Locomotive Booster, smooth starts and quick acceleration were enjoyed by the royal couple, and Her Majesty, after a thorough inspection of "2850," declared "It is a lovely engine."



*Trademark Registered United States Patent Office



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK
CHICAGO
MONTREAL

November 11, 1939

28

in the same capacity to Jacksonville, Fla., to succeed **R. G. Parks**, deceased.

D. H. Beck, district passenger agent of the Southern, with headquarters at New York, has been appointed New England passenger agent, with headquarters at Boston, Mass. **J. R. Ford**, traveling freight and passenger agent at New York, has been appointed district passenger agent at New York.

Lane McCrosky, Jr., commercial freight agent on the Western Maryland, with headquarters at Buffalo, N. Y., has been appointed general agent at Atlanta, Ga. **C. E. Gehr**, commercial freight agent at Pittsburgh, Pa., has been appointed general agent, with the same headquarters, to succeed **W. E. Zirckel**, who has voluntarily retired.

Charles F. McDonald, district passenger agent, New York Central, with headquarters at Niagara Falls, N. Y., retired on October 31, in conformity with the age limitations of the pension system, after 46 years of service with the New York Central. **Emil C. Korb**, passenger representative in the office of the division passenger agent at Buffalo, N. Y., has been appointed district passenger agent at Niagara Falls.

Frank T. Sturtevant, general freight agent on the eastern lines of the Baltimore & Ohio, with headquarters at Baltimore, Md., has been appointed freight traffic manager in charge of live stock and perishable traffic, with the same headquarters. **Harry Atkinson**, general New England agent at Boston, Mass., has been appointed general freight agent at New York, and **E. A. Ferguson**, division freight agent at New York, has been appointed New England freight agent, with headquarters at Boston, Mass. The position of general New England agent has been abolished.

John K. Dent, assistant general coal agent of the Louisville & Nashville, with headquarters at Louisville, Ky., has been



John K. Dent

promoted to general coal freight agent, with the same headquarters, succeeding to the duties of **John M. Dewberry**, general coal and coke agent, whose death on Oc-

tober 19, was announced in the *Railway Age* of October 28.

Mr. Dent is a native of Leitchfield, Ky., and entered the service of the L. & N. on September 5, 1905, as a clerk in the general freight office. After serving in various positions in that office and in the commerce and traffic departments, he was advanced to junior assistant to the vice-president in charge of traffic, with headquarters at Louisville, Ky. In September, 1923, Mr. Dent was promoted to assistant general freight agent at Louisville, and on January 1, 1935, he was advanced to senior assistant to the vice-president in charge of traffic. On March 31, 1937, he resigned to enter the financial field, but returned to the L. & N. on January 16, 1938, as assistant to the general freight agent at Louisville. On April 1, 1939, he was promoted to assistant general coal agent, with headquarters at Louisville.

ENGINEERING AND SIGNALING

E. W. Anderson, general signal inspector of the Nashville, Chattanooga & St. Louis, has been appointed acting signal and telephone engineer, with headquarters as before at Nashville, Tenn., succeeding **J. H. Schubert**, who has resigned because of ill health.

M. T. Terrill, assistant engineer on the Union Pacific, has been promoted to assistant to the chief engineer, with headquarters at Omaha, Neb., succeeding **T. R. Rutledge**, whose death, on October 4, was announced in the *Railway Age* of October 21.

MECHANICAL

A. N. Gosnell has been appointed master mechanic of the Oklahoma Railway, with headquarters at Oklahoma City, Okla., succeeding **W. E. Voss**.

O. K. Woods, fuel engineer of the Eastern district of the Union Pacific, with headquarters at Omaha, Neb., has been appointed special representative of the vice-president in charge of operation, with the same headquarters, a newly created position, which will include the duties of fuel engineer and road foreman of engines.

J. B. Neish, general master mechanic on the Northern Pacific, with headquarters at Seattle, Wash., has been promoted to mechanical superintendent, with headquarters at St. Paul, Minn., succeeding **B. P. Johnson**, who retired on November 1.

Mr. Johnson was born at Mt. Holly, N. J., on October 1, 1869, and served a five-year apprenticeship as machinist in jobbing shops at Philadelphia, Pa., and Camden. He entered railway service on the Northern Pacific on December 20, 1888, as a roundhouse laborer at Glendive, Mont., and a year later he became a locomotive fireman, serving in that capacity and as a locomotive engineer at Glendive until September 1, 1903, when he was promoted to road foreman of engines at the same point. On April 1, 1908, he was advanced to master mechanic at Glendive, and on January 15, 1916, he was transferred to Seattle, Wash. Mr. Johnson was

promoted to general master mechanic of the lines between Mandan, N. D., and Paradise, Mont., with headquarters at Livingston, Mont., on June 15, 1923, and on March 15, 1928, he was further advanced to mechanical superintendent of the lines east of Paradise, Mont., with headquarters at St. Paul, Minn. In the latter part of 1930 his jurisdiction was extended to include also the lines west of Paradise.

PURCHASES AND STORES

Everett B. Lebo has been appointed purchasing agent of the Fort Dodge, Des Moines & Southern, with headquarters at Boone, Iowa, succeeding **J. E. Wenzel**, who has retired.

Horace E. Ray, whose retirement on November 1 as general storekeeper of the Atchison, Topeka & Santa Fe system, with headquarters at Topeka, Kan., was announced in the *Railway Age* of November

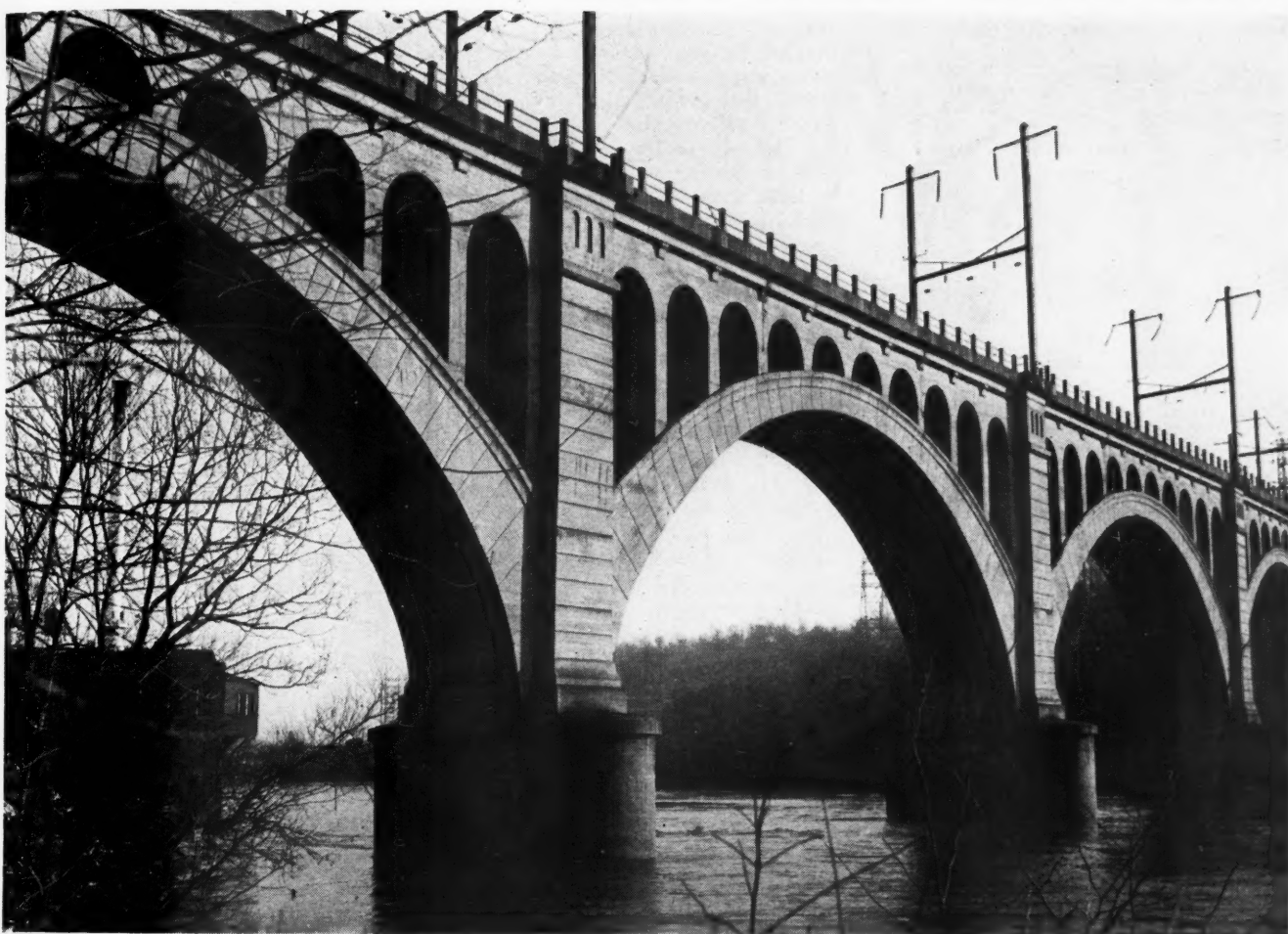


Horace E. Ray

4, was born in Shepherdstown, W. Va., on May 18, 1871, and graduated in 1890 from Wittenberg College at Springfield, Ohio. He entered railway service in August, 1890, at St. Joseph, Mo., with the St. Joseph Terminal Company, which was operated jointly by the Santa Fe and the St. Joseph & Grand Island (now part of the Union Pacific). In December, 1892, he entered the service of the Santa Fe in the stores department at Topeka, and in March, 1903, he was promoted to assistant to the general storekeeper. Four months later Mr. Ray was advanced to storekeeper at Topeka and in June, 1909, he was promoted to storekeeper of the Coast lines, with headquarters at San Bernardino, Cal. In September, 1914, he was further advanced to general storekeeper of the system, with headquarters at Topeka, the position he held until his retirement. In 1921-22 Mr. Ray served as chairman of the Purchases and Stores division of the Association of American Railroads and has since served on the general and advisory committees and also on other subject committees.

Helen B. Keating, purchasing agent for the Salt Lake & Utah, with headquarters at Salt Lake City, Utah, has been appointed also fiscal agent for the receiver

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PENNSYLVANIA RAILROAD BRIDGE

MANAYUNK, PA.

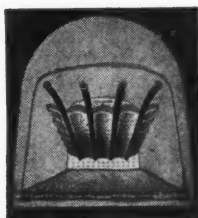
This modern concrete structure, which consists of nine main arch spans and several smaller ones, carries the Schuylkill Division tracks of the Pennsylvania Railroad over the Schuylkill River at Manayunk, Pennsylvania, a distance of 1846 ft. The alignment of the bridge is a tangent across the river with a curve on each approach, these curves being in opposite directions. The structure carries two tracks at a height of about 90 ft. above normal water level. * * * The

Security Sectional Arch for locomotive fireboxes was introduced to the railroads 30 years ago. Since then it has been modernized to keep pace with present-day railroading. But the basic design remains the same, and is today the standard on American Railroads. For full economy from your Sectional Arch be sure that every locomotive that leaves the roundhouse has a complete arch, with every brick in place.

There's More To SECURITY ARCHES Than Just Brick

**HARBISON-WALKER
REFRACTORIES CO.**

Refractory Specialists



**AMERICAN ARCH CO.
INCORPORATED**

60 EAST 42nd STREET, NEW YORK, N. Y.

**Locomotive Combustion
Specialists**

and purchasing agent of the Utah Idaho Central, with headquarters at Ogden, Utah.

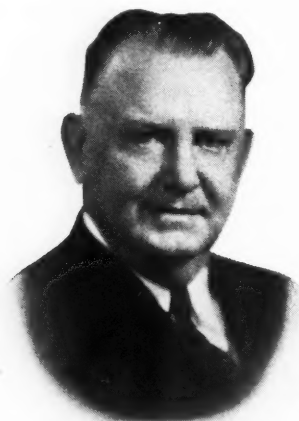
Clare R. Holmes, whose promotion to general storekeeper of the Atchison, Topeka & Santa Fe system, with headquar-



Clare R. Holmes

ters at Topeka, was announced in the *Railway Age* of November 4, was born in DeKalb County, Ill., and attended Oberlin College. Following a short period of service in the freight department of the Chicago, Burlington & Quincy at Chicago, he entered the service of the Santa Fe on January 2, 1910, in the store department at San Bernardino, Cal. He served in various capacities until early in 1917, when he was advanced to division storekeeper at Richmond, Cal., and in 1919 he returned to San Bernardino as chief clerk to the district storekeeper. On January 1, 1938, Mr. Holmes was promoted to district storekeeper of the Coast lines, with headquarters at San Bernardino, the position he held until his recent promotion, which was effective November 1.

Harry J. Blum, whose promotion to general storekeeper of the Missouri-Kansas-Texas, with headquarters at Parsons, Kan., was announced in the *Railway Age*



Harry J. Blum

of November 4, was born at Galesburg, Ill., and attended high school and Business Institute. He entered railway service in 1899 on the Chicago, Burlington & Quincy

at Galesburg and was transferred as a clerk to West Burlington, Iowa, in 1905. In 1906, he was promoted to chief clerk to the storekeeper at Hannibal, Mo., and in 1907, he left the Burlington to become a traveling accountant for the Missouri Pacific at St. Louis, Mo. Mr. Blum was promoted to district storekeeper at St. Louis in 1908, and in 1913, he went with the Terminal Railroad Association of St. Louis, serving in various capacities until 1915, when he went with the Katy as district storekeeper at Sedalia, Mo. In 1917, he was transferred to Parsons, Kan., and in 1937, he was promoted to assistant general storekeeper at that point, the position he held until his recent promotion.

SPECIAL

J. H. Fountain has been appointed Canadian National publicity representative for the eastern United States, with headquarters at New York, as reported in the *Railway Age* of November 4, succeeding **G. H. Lash**, who is now on war service in Canada as executive assistant to the Director of Censorship. Mr. Fountain was born in Vermont and, after overseas



J. H. Fountain

service, entered newspaper work in New England and New York State, including Associated Press service out of the Boston bureau. Mr. Fountain joined the Central Vermont in 1928 as publicity representative, after the Canadian National took over control. Later his territory was extended to all New England, with the title of New England publicity representative, with headquarters at St. Albans, Vt., the position he held until his recent appointment as publicity representative for the eastern United States, following the merger of the New England and New York publicity territories of the Canadian National and Central Vermont.

OBITUARY

Robert Greenville Parks, general agent, Atlanta, Birmingham & Coast, with headquarters at Jacksonville, Fla., died on October 27 at Tampa, Fla.

William W. K. Sparrow, officer in charge of finance, accounting and real estate of the Chicago, Milwaukee, St. Paul

& Pacific, with headquarters at Chicago and formerly vice-president and a director of the Milwaukee, died suddenly on No-



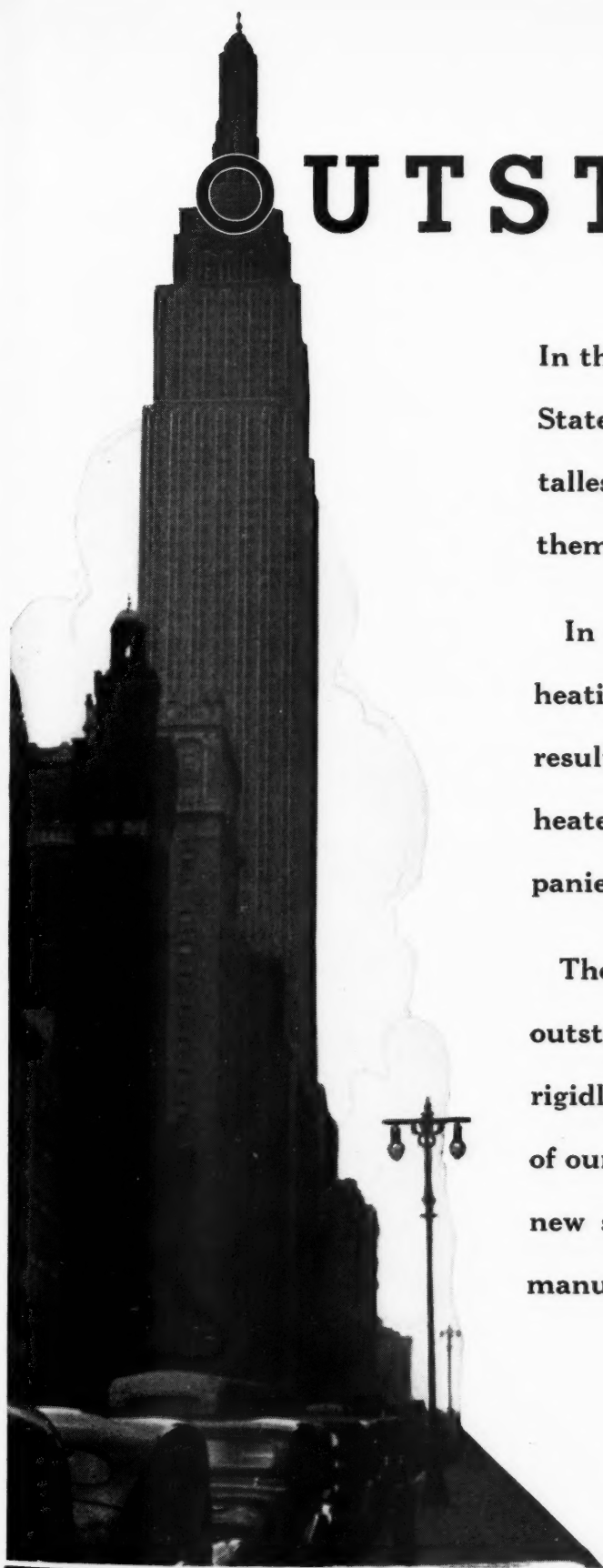
William W. K. Sparrow

vember 7, at Washington Boulevard Hospital in Chicago of a heart attack. He was stricken while attending a meeting earlier the same day.

Mr. Sparrow was born in Ireland on December 30, 1879, and entered railway service in February, 1896, in the engineering department of the Belfast & North Counties Railway in Ireland. From February, 1899 to November, 1908, he served on location, construction and maintenance for the Government Railways of South Africa. He came to this country shortly thereafter and was employed by Waddell & Harrington, consulting engineers at Kansas City, Mo., and later by H. Von Unwerth, consulting engineer at Kansas City. In September, 1913, he was appointed assistant chief engineer and clerk engineer of the Missouri Public Service Commission, and in September, 1916, he re-entered railroad service as valuation engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago. During the period of Federal control of the railroads, from September, 1918 to March, 1920, Mr. Sparrow served as chief engineer of the Chicago, Milwaukee & St. Paul, and on the later date he was appointed assistant chief engineer of that road. On June 1, 1920, he was appointed assistant to the president in charge of Federal valuation and settlement with the United States Railroad Administration for claims arising out of Federal control, and later his jurisdiction was enlarged to include the accounting and real estate departments. In April, 1923, he was elected vice-president in charge of the financial, accounting and real estate departments and in January, 1928, he was elected also a director of the Milwaukee. Since January 1, 1936, Mr. Sparrow's title has been officer in charge of finance, accounting and real estate, and in 1938, he resigned his directorship.

THE MOROCCAN (STATE) RAILWAYS has increased its passenger fares this summer by approximately 12 per cent for first class rate, 15 per cent for second class and 10 per cent for third class.

Table of Revenues and Expenses begins on next left-hand page



OUTSTANDING

In the realm of architecture, the Empire State Building in New York City, the tallest building in the world, overshadows them all.

In the specialized field of steam superheating the outstanding design is the result of years of research by The Superheater Company and its associated companies throughout the world.

The trademark "Elesco" represents the outstanding superheater design. We rigidly fulfill every technical requirement of our design both in the manufacture of new superheater units and in the RE-manufacture of your old equipment.



THE SUPERHEATER COMPANY

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A-1369

Superheaters « Exhaust Steam Injectors « Feedwater Heaters « American Throttles « Pyrometers « Steam Dryers

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1939

Name of road	Av. mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Net railway operating income	
		Freight	Passenger (inc. misc.)	Total	Maintenance of way and structures	Traffic	Transportation			1939	1938
Akron, Canton & Youngstown	171	\$182,202	\$26	\$189,307	\$26,039	\$13,997	\$54,963	60.8	\$74,185	\$62,827	\$20,297
Alton	171	1,398,358	354	1,460,856	221,995	123,123	463,889	69.9	439,432	319,534	119,898
Alton	959	1,145,416	204,521	1,350,526	180,691	50,661	1,061,909	68.5	488,617	394,826	93,791
Alton	959	8,521,457	1,859,346	12,070,770	1,678,846	425,411	4,869,430	76.7	2,812,606	1,960,059	889,547
Archison, Topeka & Santa Fe System	13,447	11,013,628	17,007,900	13,941,409	2,220,779	440,162	4,927,590	76.3	3,308,158	1,902,927	1,625,300
Atlanta & West Point	13,459	92,288,550	14,066,296	116,312,069	17,483,901	4,077,931	42,424,277	79.7	23,628,951	12,376,500	11,252,451
Atlanta & West Point	93	130,621	25,499	177,605	15,928	8,392	66,574	72.2	49,293	39,608	9,685
Atlanta & West Point	93	912,440	214,857	1,320,162	158,812	72,389	581,306	86.1	182,850	95,692	87,158
Western of Alabama	133	119,539	25,257	163,459	15,589	8,425	57,040	71.6	46,416	32,869	13,547
Atlanta, Birmingham & Coast	133	881,608	210,040	1,255,158	169,983	73,021	495,882	85.6	181,110	59,117	121,993
Atlanta, Birmingham & Coast	639	234,198	6,246	257,859	38,568	23,759	106,445	91.9	20,828	1,655	19,173
Atlanta, Birmingham & Coast	639	2,245,041	173,116	2,598,713	382,974	215,354	1,044,716	87.0	338,741	132,562	206,179
Atlantic Coast Line	5,103	2,481,181	303,743	3,197,544	730,161	154,826	1,359,251	85.4	465,893	215,893	250,000
Charleston & Western Carolina	5,106	26,279,628	5,312,575	35,302,151	6,625,840	1,381,291	13,964,953	77.3	8,023,812	4,473,812	3,550,000
Charleston & Western Carolina	343	204,981	1,063	209,791	35,037	8,582	67,768	68.7	65,636	43,636	22,000
Charleston & Western Carolina	343	1,799,489	8,847	1,847,400	218,438	74,660	609,525	67.1	607,938	402,938	205,000
Baltimore & Ohio	6,389	13,764,063	988,518	15,612,203	1,443,839	402,176	4,873,967	66.8	5,183,241	4,264,873	918,368
Baltimore & Ohio	6,398	97,663,780	8,177,229	112,843,029	10,779,429	3,524,832	41,146,460	75.1	28,049,347	20,142,093	8,907,254
Baltimore & Ohio	24	61,848	67,808	140,912	4,693	1,022	7,942	80.2	27,938	1,136	26,802
Baltimore & Ohio	24	478,515	650,750	1,224,047	88,210	9,582	718,366	90.9	111,817	144,497	32,681
Bangor & Aroostook	603	241,000	14,105	274,453	93,928	5,631	99,238	112.3	33,835	53,432	19,597
Bangor & Aroostook	603	3,656,691	140,273	3,950,001	830,545	53,298	1,086,293	75.0	986,937	627,521	359,416
Bangor & Aroostook	224	1,732,931	577	1,768,956	106,937	13,022	228,895	26.0	1,131,410	885,617	245,793
Bangor & Aroostook	224	9,927,960	6,707	9,955,059	946,463	113,329	1,589,193	59.1	3,703,702	2,760,659	943,043
Boston & Maine	1,937	2,975,127	613,328	4,115,752	466,325	69,197	1,484,470	66.3	1,388,674	1,088,108	300,566
Boston & Maine	1,942	23,956,920	5,405,859	33,746,724	4,029,916	590,080	13,438,689	72.3	9,434,949	6,603,985	2,830,964
Boston & Maine	255	108,350	18,246	135,835	18,580	5,050	49,055	73.3	36,262	20,796	15,466
Boston & Maine	255	749,928	162,877	982,970	151,246	42,685	455,251	92.6	72,349	2,428	69,771
Cambria & Indiana	37	138,009	.....	138,144	11,268	396	12,922	74.21	35,628	9,589	26,039
Cambria & Indiana	37	997,929	.....	998,864	68,150	3,687	100,333	65.15	348,132	100,293	247,839
Cambria & Indiana	234	113,938	13,287	139,892	34,019	10,599	55,907	98.0	2,760	7,462	5,702
Cambria & Indiana	234	1,449,845	132,429	1,696,322	340,563	90,716	622,269	83.8	273,894	179,811	95,911
Canadian Pacific Lines in Vermont	91	63,217	11,825	84,444	14,190	3,819	60,066	118.8	15,870	22,952	7,072
Central of Georgia	91	537,481	86,968	717,627	139,346	34,379	542,828	132.6	234,084	295,376	61,292
Central of Georgia	1,871	1,125,727	93,580	1,336,186	172,222	51,325	535,019	80.6	258,947	147,930	111,017
Central of Georgia	1,871	9,195,933	896,985	11,372,251	1,528,356	469,240	4,925,198	87.9	1,381,220	377,143	1,004,077
Central of New Jersey	710	2,534,153	402,717	3,137,492	548,947	43,892	1,095,692	65.3	1,089,278	648,942	440,336
Central of New Jersey	711	18,973,467	3,366,644	24,034,986	4,605,854	423,190	9,958,594	74.7	6,073,725	2,374,286	3,700,439
Central of New Jersey	422	433,456	45,507	523,488	96,912	11,821	207,168	78.9	110,558	85,894	24,664
Central of New Jersey	427	3,481,298	339,612	4,181,649	738,456	109,248	1,815,448	84.9	629,944	393,361	236,583
Chesapeake & Ohio	3,121	11,952,590	274,380	12,675,000	977,270	208,054	2,617,365	48.7	6,503,794	4,921,881	1,581,913
Chesapeake & Ohio	3,111	77,837,439	2,202,255	83,174,428	8,033,315	1,847,722	20,527,937	60.3	33,048,937	23,523,775	9,525,162
Chicago & Eastern Illinois	927	1,034,334	120,728	1,155,062	203,486	51,527	485,752	70.8	397,008	322,008	75,000
Chicago & Eastern Illinois	927	8,558,851	1,065,641	11,005,379	1,353,682	488,741	4,426,228	80.4	2,159,221	1,460,221	700,000
Chicago & Illinois Midland	131	313,452	592	338,188	52,398	18,852	75,497	67.7	109,250	76,682	32,568
Chicago & Illinois Midland	839	2,512,137	6,161	2,687,211	345,587	174,468	663,202	72.2	746,995	503,495	243,500
Chicago & North Western	8,356	7,010,978	1,007,069	8,850,700	1,326,896	179,817	3,050,570	69.3	2,715,130	2,282,032	433,100
Chicago & North Western	8,356	47,910,167	8,741,512	63,255,095	10,644,724	1,805,019	25,644,111	85.6	9,120,082	4,279,217	4,840,865
Chicago, Burlington & Quincy	9,034	7,412,073	825,723	9,152,934	1,243,065	218,322	2,980,424	67.5	2,974,168	2,233,985	740,183
Chicago, Burlington & Quincy	8,956	54,973,678	6,925,127	69,148,502	10,400,625	2,203,760	25,126,672	76.6	16,167,336	9,685,436	6,481,900
Chicago Great Western	1,505	1,526,067	40,937	1,684,065	262,609	57,236	662,609	64.0	606,746	490,544	116,202
Chicago Great Western	1,505	11,948,413	359,224	13,227,576	1,752,309	528,898	4,935,501	73.6	3,492,851	2,638,286	854,565
Chicago, Indianapolis & Louisville	549	767,499	42,181	884,501	76,263	28,097	297,717	66.6	295,800	263,350	32,450
Chicago, Indianapolis & Louisville	549	5,712,752	390,265	6,724,225	738,992	271,885	2,764,699	84.1	1,068,671	739,843	328,828

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1939—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Net railway operating income	
		Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Equipment	Traffic			Operating income	1938
Chicago, Milwaukee, St. Paul & Pacific	10,890	\$8,841,919	\$755,767	\$10,527,014	\$1,936,034	\$1,652,300	\$224,320	73.6	\$2,888,465	\$2,200,465	\$1,717,902
Chicago, Rock Island & Pacific	10,930	63,895,797	5,977,257	77,323,099	14,444,838	14,811,382	2,071,221	83.2	13,002,305	6,678,305	2,960,027
Chicago, Rock Island & Pacific	7,858	5,659,711	657,758	6,913,534	1,218,501	1,202,874	251,777	78.4	1,491,502	1,030,180	707,064
Chicago, Rock Island & Pacific	7,873	47,308,044	5,704,220	58,083,064	9,283,047	10,873,247	2,273,972	81.4	10,780,847	6,412,500	2,966,039
Chicago, Rock Island & Pacific	7,873	47,308,044	5,704,220	58,083,064	9,283,047	10,873,247	2,273,972	81.4	10,780,847	6,412,500	2,966,039
Chicago, Rock Island & Pacific	7,873	47,308,044	5,704,220	58,083,064	9,283,047	10,873,247	2,273,972	81.4	10,780,847	6,412,500	2,966,039
Chicago, St. Paul, Minneapolis & Omaha	1,629	1,619,072	132,941	1,856,070	2,077,553	2,387,868	41,919	70.2	552,671	435,100	294,729
Chicago, St. Paul, Minneapolis & Omaha	1,629	10,924,893	1,084,852	12,853,746	2,077,553	2,387,868	41,919	87.3	1,635,876	617,995	—352,758
Clinchfield Railroad	308	636,653	3,549	645,024	47,014	106,533	20,998	46.7	343,926	278,420	308,954
Colorado & Southern	308	5,044,331	29,141	5,122,307	389,358	897,713	171,998	66.6	2,545,308	2,079,433	2,227,511
Colorado & Southern	787	516,279	35,127	606,860	62,989	90,012	7,257	66.6	202,667	107,342	103,544
Colorado & Southern	791	3,964,642	272,865	4,704,488	503,565	933,007	123,247	76.8	1,093,608	407,034	257,877
Fort Worth & Denver City	902	455,971	57,599	508,267	55,789	65,918	17,781	68.6	159,710	123,338	78,521
Fort Worth & Denver City	902	4,031,718	447,168	4,431,885	488,852	720,328	163,899	73.1	1,927,109	860,883	504,641
Columbus & Greenville	168	116,733	6,760	130,881	22,853	20,392	4,998	76.8	30,376	19,387	18,104
Columbus & Greenville	168	927,724	58,135	1,043,515	162,551	170,528	42,710	78.0	229,232	142,830	136,195
Delaware & Hudson	847	2,204,778	129,101	2,419,332	267,873	376,092	41,463	63.2	891,341	684,236	642,515
Delaware & Hudson	838	16,517,374	971,727	18,247,676	1,916,382	3,155,708	386,973	70.1	5,456,241	3,960,252	3,689,351
Delaware, Lackawanna & Western	996	3,647,675	565,786	4,715,415	338,975	816,376	107,854	69.9	1,417,869	967,869	937,903
Delaware, Lackawanna & Western	988	27,571,274	4,990,322	36,561,012	2,619,842	6,897,266	1,009,507	78.0	8,053,166	4,147,166	2,603,879
Denver & Rio Grande Western	2,555	2,394,183	157,493	2,678,253	246,770	539,188	67,906	68.5	844,881	639,682	507,408
Denver & Rio Grande Western	2,557	15,342,591	1,195,683	17,503,986	2,869,006	4,401,215	620,380	85.7	2,496,410	855,392	146,294
Denver & Salt Lake	232	290,087	4,989	304,576	25,919	31,138	2,286	45.3	166,571	135,022	180,601
Denver & Salt Lake	232	1,403,064	52,264	1,537,854	288,826	370,226	22,988	81.7	281,985	32,730	448,299
Detroit & Mackinac	242	70,379	2,432	81,614	11,460	13,668	980	65.6	28,093	24,740	19,265
Detroit & Mackinac	242	498,178	23,814	596,704	100,771	124,078	8,488	79.8	120,418	86,708	66,470
Detroit & Toledo Shore Line	50	313,888	.....	313,888	23,527	18,436	8,776	44.8	174,934	137,824	84,825
Detroit & Toledo Shore Line	50	2,266,999	.....	2,266,999	219,019	186,279	80,026	55.8	1,006,180	740,252	327,944
Detroit, Toledo & Ironton	472	513,954	242	548,952	55,198	90,037	12,701	55.2	245,809	184,894	157,733
Detroit, Toledo & Ironton	472	4,427,125	1,791	4,658,791	484,796	775,586	111,514	57.6	1,973,682	1,458,568	1,292,896
Duluth, Missabe & Iron Range	541	2,457,236	1,808	2,869,766	164,893	202,573	3,883	28.3	2,058,231	1,779,203	1,777,964
Duluth, Missabe & Iron Range	540	11,464,764	15,081	13,345,692	1,554,664	1,943,441	38,229	46.8	7,096,998	5,243,867	5,246,055
Duluth, Winnipeg & Pacific	175	117,458	1,128	120,924	23,840	21,670	2,224	80.3	23,805	14,362	2,490
Duluth, Winnipeg & Pacific	175	914,549	12,570	951,334	200,543	171,972	20,337	89.1	104,161	28,197	—88,444
Elgin, Joliet & Eastern	300	1,232,918	.....	1,232,918	142,002	121,617	13,405	63.4	554,038	395,723	330,149
Elgin, Joliet & Eastern	390	10,126,991	72	11,903,502	1,332,840	2,450,989	131,231	74.1	3,084,525	1,950,351	1,562,449
Erie	2,290	6,828,776	410,748	7,753,527	757,033	1,408,570	176,657	67.8	2,497,493	1,935,344	1,598,171
Erie	2,290	49,969,367	3,621,522	57,886,732	5,575,106	11,585,652	1,560,531	74.8	14,612,614	9,515,751	7,186,583
New York, Susquehanna & Western	146	230,667	18,620	259,121	27,678	26,336	3,764	63.1	95,489	70,494	44,739
New York, Susquehanna & Western	146	1,964,440	166,888	2,229,863	203,835	245,242	30,868	66.9	737,932	459,084	149,146
Florida East Coast	685	343,481	80,391	471,513	123,608	144,238	21,354	108.2	—38,532	—96,512	—175,248
Florida East Coast	685	4,289,089	2,018,498	7,034,257	985,019	1,306,091	209,282	75.5	1,723,903	1,079,957	580,668
Georgia Railroad	329	308,523	12,858	344,449	34,318	54,719	18,997	74.0	89,176	73,523	85,184
Georgia Railroad	329	2,398,539	103,936	2,718,810	298,198	478,474	166,871	82.3	480,440	339,716	457,505
Georgia & Florida	408	97,637	2,121	103,631	15,531	15,531	35,713	83.5	17,124	9,167	5,659
Grand Trunk Western	1,029	1,620,192	80,311	1,814,907	241,343	338,781	41,013	87.3	113,364	41,111	—450
Grand Trunk Western	1,030	13,524,936	779,830	15,388,742	2,016,400	3,281,254	376,443	85.1	2,293,397	1,185,385	502,135
Canadian National Lines in New England	172	121,766	7,289	146,231	35,029	17,398	2,796	79.1	30,569	14,057	—17,626
Canadian National Lines in New England	172	887,114	61,352	1,050,864	307,747	161,198	25,752	106.2	—46,698	—21,221	—475,399
Great Northern	8,072	10,121,604	363,549	11,323,532	1,399,094	1,839,797	183,039	51.9	5,483,972	4,065,689	4,011,511
Great Northern	8,072	58,035,037	3,398,164	66,773,971	8,775,948	11,674,365	1,742,108	68.2	21,215,453	13,730,646	12,378,978
Green Bay & Western	234	145,150	405	150,784	29,916	13,336	6,545	67.5	48,879	33,124	23,868
Green Bay & Western	234	1,194,517	3,394	1,241,460	222,880	142,790	57,581	71.2	357,243	235,185	153,825

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1939—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues				Operating expenses			Operating ratio	Net from railway operation	Net railway operating income	
		Freight	Passenger	Total (inc. misc.)	Maintenance of way and structures	Traffic	Trans- portation	Total			1939	1938
Gulf & Ship Island	259	\$82,628	\$3,681	\$86,309	\$23,420	\$13,949	\$2,794	\$90,332	94.0	\$5,804	\$11,141	\$32,838
Gulf, Mobile & Northern	259	\$37,796	34,386	72,182	197,979	145,645	22,083	827,888	96.2	27,577	19,310	228,422
.....	824	597,881	19,698	617,579	79,725	91,260	41,435	403,781	63.0	237,095	173,095	117,017
.....	824	4,633,447	172,382	5,015,172	665,330	757,820	363,431	1,337,550	68.6	1,573,279	1,130,779	573,986
Illinois Central	4,949	7,474,373	723,055	8,197,428	853,825	1,454,235	199,887	2,928,704	65.6	3,008,954	2,303,890	1,590,514
.....	4,949	56,780,928	6,559,102	63,340,030	7,236,429	14,686,870	1,696,870	26,303,243	56.6	16,140,093	9,891,022	9,033,359
.....	1,619	1,489,983	58,853	1,548,836	1,23,941	1,633,699	31,087	52,802,523	76.5	707,609	566,242	357,620
.....	1,619	9,247,373	517,100	10,426,399	1,081,756	1,556,602	267,342	920,645	71.9	2,927,656	1,678,262	1,032,809
Illinois Central System	6,568	8,964,356	781,908	10,381,087	977,766	1,637,934	230,674	3,468,236	64.2	3,716,563	2,868,076	1,958,134
.....	6,568	66,028,301	7,076,202	73,104,503	8,318,185	16,243,215	1,964,212	30,505,299	76.6	19,067,749	11,550,793	10,445,067
.....	481	456,675	60,030	516,705	59,214	628,423	147,217	330,880	58.58	233,987	193,353	167,861
Illinois Terminal	486	3,333,480	528,817	4,240,659	470,206	628,423	147,217	2,879,666	67.91	1,360,993	981,714	812,750
Kansas City Southern	879	1,009,809	31,388	1,164,663	94,675	168,410	59,044	329,557	60.6	459,102	345,102	289,602
.....	879	8,352,715	194,357	8,547,072	840,967	1,423,611	477,366	6,091,620	63.3	3,526,826	2,620,826	2,204,221
.....	327	239,787	44,445	284,232	32,242	11,269	8,751	99,778	41.0	143,309	111,714	93,084
Kansas, Oklahoma & Gulf	327	2,035,777	3,445	2,063,256	288,158	151,423	79,969	948,328	46.0	1,143,928	894,190	731,823
Lake Superior & Ishpeming	156	409,220	58	409,278	26,493	23,157	538	117,949	23.6	381,549	296,467	296,307
.....	156	1,614,473	565	1,958,948	219,692	186,814	5,525	805,689	41.1	1,153,259	734,472	728,909
Lehigh & Hudson River	96	133,859	.....	133,859	14,314	24,200	3,259	91,659	68.1	42,932	24,666	13,985
.....	96	1,151,592	681	1,158,403	121,207	191,407	31,542	799,905	69.1	358,498	222,525	122,902
Lehigh & New England	190	420,367	.....	422,437	31,221	53,688	6,081	220,325	52.2	202,112	155,328	159,333
.....	190	3,064,768	218,964	3,283,732	2,224,140	5,987,184	985,102	13,941,061	63.1	1,151,716	858,934	915,640
.....	1,283	29,149,953	1,672,732	32,812,455	3,224,140	5,987,184	985,102	24,229,289	67.1	1,359,702	1,101,999	932,939
Louisiana & Arkansas	847	715,527	7,928	723,455	108,337	79,327	34,101	421,367	56.5	324,436	251,723	204,251
.....	847	5,118,491	68,509	5,187,000	813,493	748,424	317,632	3,588,734	66.5	1,804,816	1,361,953	1,032,819
.....	4,907	7,213,016	494,933	7,707,949	712,044	1,883,473	171,663	5,560,879	68.4	2,571,062	1,681,589	1,628,083
Louisville & Nashville	4,912	54,199,950	4,510,138	63,041,375	6,782,669	14,339,904	1,614,267	21,856,321	74.5	16,067,076	10,122,379	10,440,925
Maine Central	991	819,247	93,855	1,016,435	118,680	128,545	14,139	354,077	63.9	366,717	303,597	286,364
.....	995	7,266,341	774,491	8,040,832	1,366,335	1,359,232	112,417	6,415,126	72.4	2,450,347	1,856,998	1,485,518
.....	352	1,010,637	30	1,025,654	125,460	88,322	2,356	755,997	50.9	72,072	50,324	39,326
Midland Valley	1,512	887,230	7,140	894,370	135,467	123,307	46,860	616,281	66.2	314,358	258,850	188,243
.....	1,520	6,220,632	73,024	6,293,656	1,038,102	1,123,977	219,223	5,289,328	80.0	1,325,015	915,012	535,884
Minneapolis & St. Louis	4,289	3,202,279	108,022	3,310,301	331,980	370,251	61,928	1,889,931	53.3	1,653,921	1,437,747	1,277,227
.....	4,289	18,132,742	886,372	20,019,114	3,087,925	3,425,847	566,320	16,280,453	78.9	4,365,739	2,742,636	1,745,884
Minneapolis, St. Paul & Sault Ste. Marie	550	258,002	7,878	265,880	54,405	36,292	5,773	190,975	64.5	105,155	90,569	85,332
.....	550	1,434,431	85,623	1,520,054	338,258	319,984	49,434	1,496,175	88.4	195,414	65,830	19,766
Duluth, South Shore & Atlantic	152	65,971	833	74,123	14,437	14,437	2,039	51,469	69.4	22,654	16,683	10,365
.....	152	533,776	8,159	541,935	134,739	65,402	18,048	462,462	77.2	136,742	99,295	30,659
Spokane International	150	86,908	2,100	89,008	27,548	87,909	7,007	20,359	75.5	22,382	17,487	11,044
.....	150	589,291	16,832	606,123	202,455	319,984	63,006	174,493	91.2	55,388	12,119	35,416
Mississippi Central	365	90,761	1,683	92,444	23,485	8,855	6,764	29,325	73.3	55,388	20,263	11,812
.....	365	708,172	13,842	722,014	192,458	86,631	57,847	252,429	81.9	141,076	106,107	38,069
Missouri & Arkansas	193	230,130	367	230,497	32,561	18,194	2,941	56,170	49.6	117,370	96,924	82,602
.....	193	1,636,109	3,400	1,639,509	1,635,841	143,807	27,570	440,084	53.1	776,656	623,088	460,484
Missouri-Illinois	3,294	17,380,757	1,553,975	20,984,469	3,024,239	3,592,044	1,000,515	911,891	73.2	700,532	454,581	298,571
.....	3,294	17,380,757	1,553,975	20,984,469	3,024,239	3,592,044	1,000,515	911,891	73.2	700,532	454,581	298,571
Missouri-Kansas-Texas Lines	7,150	6,614,481	410,597	7,025,078	1,322,024	1,389,397	236,643	2,597,347	75.6	1,867,638	1,403,826	977,100
.....	7,150	50,895,342	3,690,241	54,585,583	12,068,134	21,116,502	2,116,502	48,096,245	80.2	11,838,250	7,447,922	3,906,502
Missouri Pacific	1,759	838,459	39,353	877,812	186,826	182,388	404,469	338,566	83.86	152,350	78,609	15,397
.....	1,759	10,361,822	341,855	11,276,611	1,740,194	1,759,232	404,469	3,341,328	68.16	3,590,490	2,925,063	2,001,833
Gulf Coast Lines	1,155	828,752	69,735	898,487	157,966	181,594	29,401	396,308	79.7	208,686	148,087	69,385
.....	1,155	6,817,105	655,109	7,472,214	1,372,864	1,674,931	272,864	3,601,003	87.7	1,639,529	506,119	211,091
International Great Northern	1,155	828,752	69,735	898,487	157,966	181,594	29,401	396,308	79.7	208,686	148,087	69,385
.....	1,155	6,817,105	655,109	7,472,214	1,372,864	1,674,931	272,864	3,601,003	87.7	1,639,529	506,119	211,091

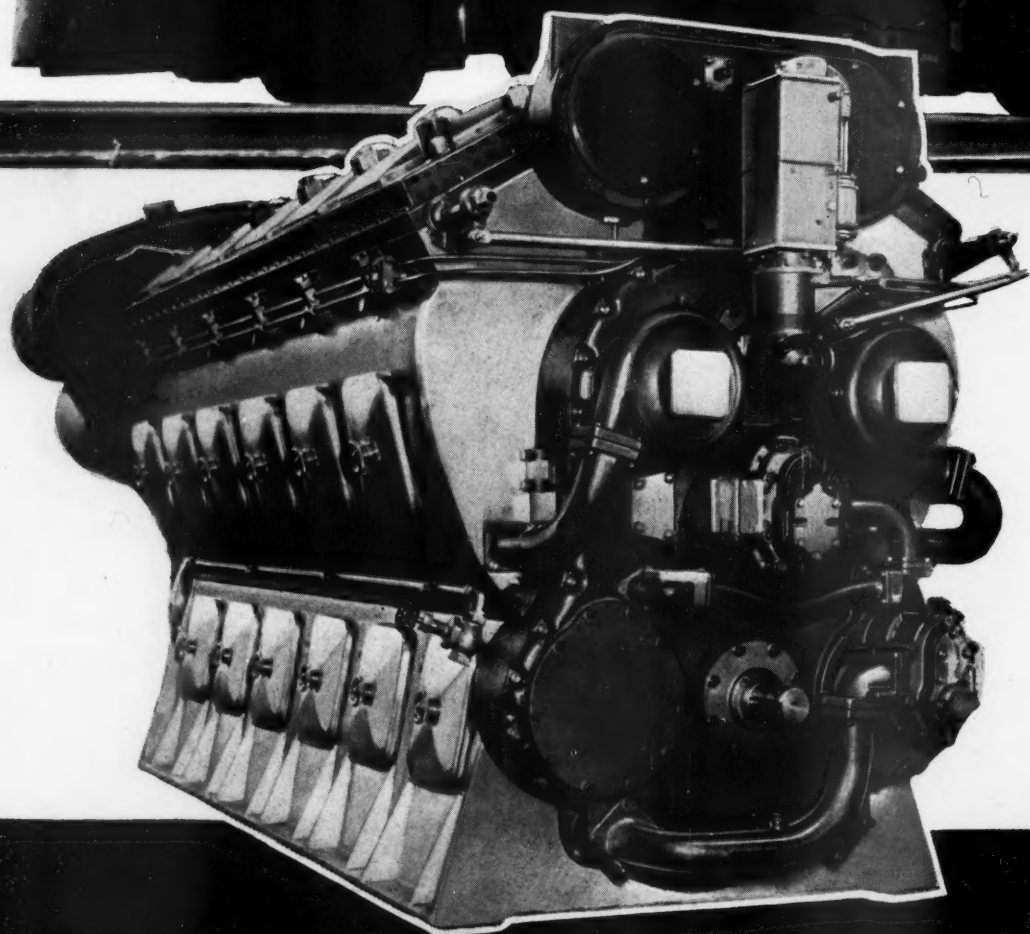
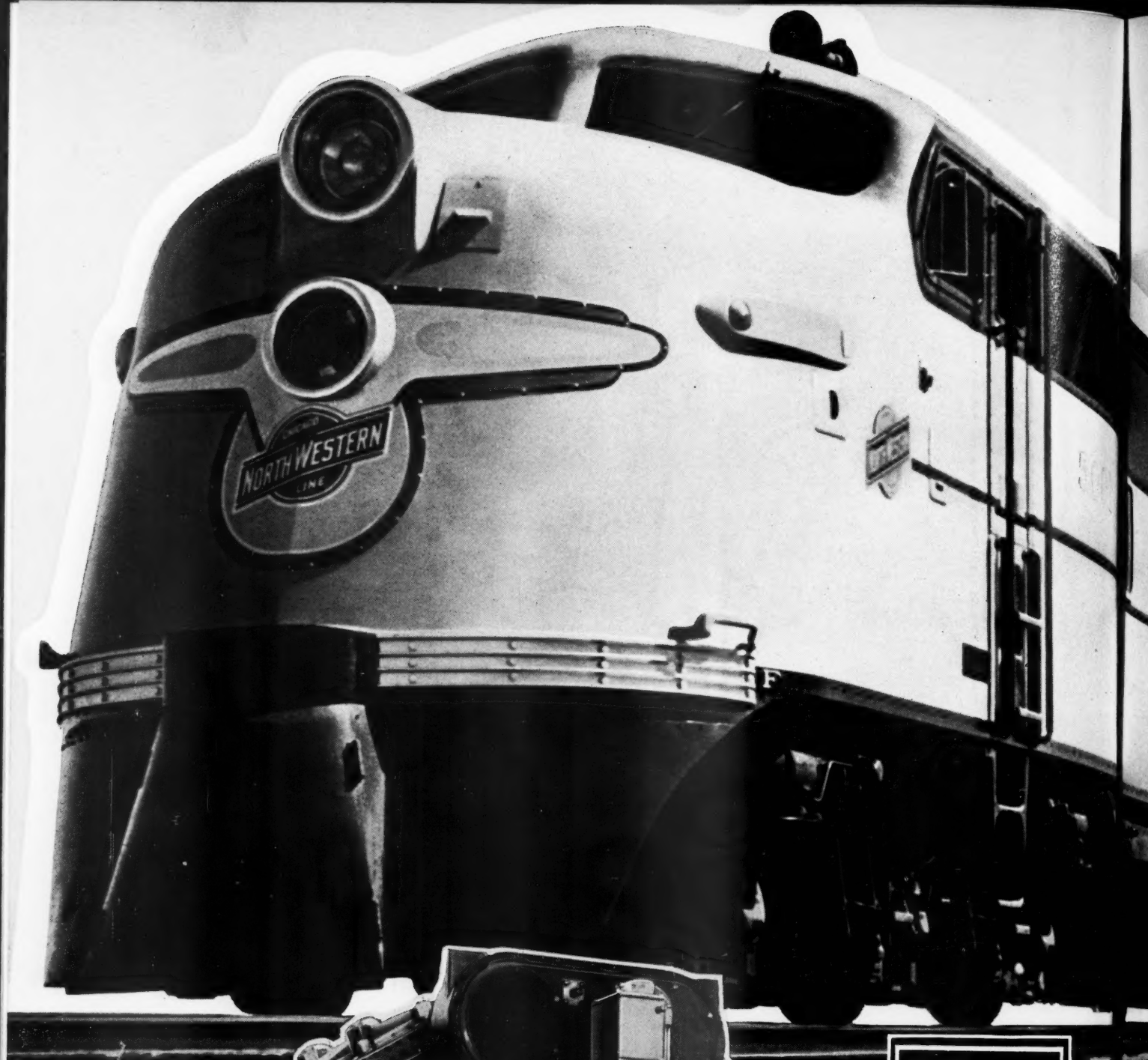
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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1939—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Net railway operating income	
		Freight	Passenger	Total (inc. misc.)	Maintenance of way and structures	Equip-ment	Traffic			1939	1938
Mobile & Ohio	1,180	\$974,936	\$29,841	\$1,004,777	\$148,380	\$178,930	\$43,291	72.2	\$291,262	\$229,102	\$171,998
Monongahela	1,172	8,004,595	234,530	8,239,125	1,331,584	1,666,392	387,665	79.5	1,770,145	1,204,331	590,581
Montour	1,172	417,969	531	420,236	35,232	35,232	488	37.2	264,014	229,069	147,492
Montreal	1,172	2,745,065	5,386	2,750,451	280,342	239,528	4,376	41.8	1,609,009	1,304,488	705,541
Nashville, Chattanooga & St. Louis	51	217,436	.....	217,436	10,519	48,710	904	50.3	108,902	74,473	102,779
Nevada Northern	165	423,283	.....	423,283	1,391,963	98,501	313,347	60.3	550,696	366,482	594,606
New York Central	1,111	1,117,016	84,558	1,201,574	1,119,866	195,119	64,404	77.9	424,927	336,374	320,407
New York, Chicago & St. Louis	1,111	9,042,130	811,951	9,854,081	1,222,537	2,073,974	580,955	67.8	2,443,250	1,719,524	1,496,087
Pittsburgh & Lake Erie	233	1,892,350	36,812	1,929,162	10,805	2,721	10,282	53.6	26,068	15,529	18,255
Pittsburgh, Chicago & St. Louis	233	11,885,321	350,400	12,235,721	7,471	32,746	11,036	52.9	222,652	118,858	143,113
New York, New Haven & Hartford	1,704	3,847,914	79,115	3,927,029	3,207,054	5,673,006	600,162	68.0	10,168,210	7,477,505	6,338,377
New York, New Haven & Hartford	1,704	28,699,836	650,258	29,350,094	26,248,944	49,835,043	5,149,707	76.3	57,631,195	31,757,079	21,354,015
New York, New Haven & Hartford	1,869	4,275,248	2,619,226	6,894,474	1,053,632	1,160,989	99,920	75.8	482,422	284,228	478,099
New York, New Haven & Hartford	1,874	34,113,938	20,399,104	54,513,042	8,332,372	10,286,982	1,001,866	68.9	2,382,802	1,842,802	1,235,090
New York, New Haven & Hartford	21	215,178	.....	215,178	22,332	9,496	31,682	75.6	14,798,470	10,108,470	4,628,442
New York, New Haven & Hartford	21	1,785,097	.....	1,785,097	231,107	89,091	.....	32.5	1,268,852	901,672	972,392
New York, Ontario & Western	576	375,545	42,041	417,586	60,541	103,664	16,027	99.0	4,671	46,873	80,432
Norfolk & Western	576	4,069,075	307,584	4,376,659	529,210	992,432	147,716	89.7	492,407	29,844	338,877
Norfolk & Western	2,191	9,557,256	181,843	9,739,100	844,410	1,579,138	146,918	46.0	5,386,712	3,906,493	4,295,399
Norfolk & Western	2,191	61,309,694	1,403,713	62,713,407	6,591,935	13,294,713	1,257,038	58.2	26,985,113	17,902,012	19,797,661
Norfolk Southern	805	383,408	3,922	387,330	70,829	52,502	25,422	75.6	97,307	64,688	45,417
Norfolk Southern	805	3,250,593	32,323	3,282,916	649,068	2,739,470	2,739,470	80.2	677,620	385,185	229,630
Norfolk Southern	6,720	5,865,987	311,412	6,177,400	709,424	1,070,292	156,154	63.2	2,470,294	1,867,144	2,057,294
Norfolk Southern	6,721	39,511,085	2,856,064	42,367,149	6,989,113	9,734,461	1,547,070	81.6	8,561,561	3,449,992	5,383,984
Northwestern Pacific	352	204,401	58,087	262,488	68,189	48,722	3,301	99.0	2,861	17,265	24,659
Northwestern Pacific	352	1,727,185	489,809	2,216,994	59,099	440,723	30,005	100.4	9,496	175,939	260,673
Oklahoma City-Ada-Atoka	132	36,653	329	37,000	38,736	1,784	717	63.5	14,123	11,791	6,929
Oklahoma City-Ada-Atoka	132	270,439	2,727	273,166	69,881	12,535	7,057	69.2	89,412	65,358	30,379
Pennsylvania	10,289	30,064,890	6,656,893	36,721,783	3,409,924	7,955,449	731,684	65.0	14,107,965	10,161,046	9,537,642
Pennsylvania	10,289	219,641,439	53,292,621	272,934,060	30,383,032	60,230,335	6,306,971	72.1	83,899,295	53,466,284	48,169,897
Long Island	379	583,708	1,679,433	2,263,141	211,058	314,332	11,143	67.2	778,714	375,153	143,858
Long Island	382	4,973,600	13,623,958	18,597,558	1,909,434	3,080,289	105,974	74.2	5,026,221	2,072,287	272,007
Pennsylvania-Reading Seashore Lines	411	332,414	267,608	600,022	77,458	66,901	7,000	77.7	139,696	47,043	58,867
Pennsylvania-Reading Seashore Lines	412	2,336,109	1,963,868	4,299,977	713,418	687,868	65,283	96.5	156,940	602,723	1,402,830
Pere Marquette	2,115	2,607,951	67,785	2,675,736	352,443	531,301	929,582	69.4	870,082	695,457	557,517
Pere Marquette	2,115	19,249,985	732,612	19,982,597	2,895,765	4,635,576	575,708	80.9	4,049,220	2,616,045	1,566,834
Pittsburgh & Shawmut	101	88,077	.....	88,077	88,340	19,836	1,434	67.8	28,431	24,551	21,191
Pittsburgh & Shawmut	101	429,939	.....	429,939	433,072	147,511	141,709	94.3	24,862	5,195	2,746
Pittsburgh & Shawmut	136	363,591	.....	363,591	380,617	65,072	14,076	54.7	172,346	148,205	162,223
Pittsburgh & Shawmut	136	2,293,661	139	2,293,800	306,455	508,741	129,127	69.8	734,372	527,687	586,804
Pittsburgh, Shawmut & Northern	190	97,613	.....	97,613	15,633	12,071	30,137	65.3	34,098	29,008	17,289
Pittsburgh, Shawmut & Northern	190	673,559	.....	673,559	679,423	123,415	8,507	75.8	164,564	121,836	47,251
Reading	1,450	4,686,008	267,546	4,953,554	451,940	885,192	1,818,507	65.1	1,810,296	1,334,361	1,951,105
Reading	1,450	36,017,850	2,382,857	38,400,707	3,343,743	7,311,491	633,264	71.6	11,434,761	8,283,144	7,970,374
Richmond, Fredericksburg & Potomac	118	356,842	176,830	533,672	72,784	220,373	457,847	72.1	177,476	116,660	121,758
Richmond, Fredericksburg & Potomac	118	3,494,204	1,954,668	5,448,872	6,414,507	667,229	4,763,083	74.3	1,651,424	1,131,307	726,674
Rutland	407	221,630	49,488	271,118	41,880	49,488	127,051	71.1	97,558	78,003	71,775
Rutland	407	1,711,879	276,253	1,988,132	343,701	492,747	1,306,567	92.0	2,303,307	28,703	4,008
St. Louis-San Francisco	4,824	3,690,975	272,704	3,963,679	585,649	967,122	1,448,786	77.4	966,966	635,844	702,602
St. Louis-San Francisco	4,835	28,043,745	2,414,705	30,458,450	5,168,745	8,079,686	1,063,148	86.0	4,670,920	1,754,980	1,805,504
St. Louis-San Francisco	4,835	28,043,745	2,414,705	30,458,450	5,168,745	8,079,686	1,063,148	86.0	4,670,920	1,754,980	1,805,504

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The General Motors 2-cycle
Diesel engine which powers
the "400" locomotives.

The Famous "400"



GOES DIESEL

THE famous Northwestern "400" trains between Chicago - Milwaukee - St. Paul - Minneapolis have gone 100 per cent modern in adopting the EMC Diesel locomotives and new streamlined equipment for high speed luxurious transportation with safety, passenger comfort and operating economy.

Their 4000 Hp. Diesel locomotives, capable of a top speed of 117 miles per hour, are making the six and one-half hour, 400 mile run without changing locomotives and without the necessity for continuous top speeds.

In addition to handling the two "400" trains, one each way daily, these two locomotives are also hauling the "North Western Limited", thus giving each locomotive one round trip of 800 miles daily.

These locomotives are provided with a cab at both ends to eliminate the necessity of turning at terminals, which is a very important factor where time between arrival and departure is limited. For example, this turning time is only 45 minutes at Chicago and one hour and 30 minutes at Minneapolis between the arrival of the "400" and the departure of the "North Western Limited".

ELECTRO-MOTIVE CORPORATION
 SUBSIDIARY OF GENERAL MOTORS LA GRANGE, ILLINOIS, U. S. A.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1939--CONTINUED

Name of road	Av. mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Net railway operating income	
		Freight	Passenger	Total (inc. misc.)	Way and structures	Equip-ment	Traffic			Trans-portion	Total	Operating income	1938
St. Louis, San Francisco & Texas	267	\$101,134	\$290	\$108,077	\$25,074	\$15,085	\$8,258	\$51,660	\$106,271	\$1,806	\$29,218
St. Louis, San Francisco & Texas	267	1,151,424	4,675	1,213,283	218,792	136,729	72,405	476,771	963,324	249,959	59,866
St. Louis Southwestern Lines	1,695	13,150,699	236,265	13,998,697	2,936,252	2,493,903	742,031	4,940,896	11,424,015	360,006	148,328
Seaboard Air Line	4,317	2,461,337	381,007	3,195,955	550,724	739,021	155,262	1,231,919	2,847,730	348,225	112,442
Seaboard Air Line	4,317	24,235,774	4,810,645	32,093,946	4,945,374	6,637,173	1,494,595	12,148,812	26,988,300	5,105,646	1,709,073
Southern Railway	6,533	7,629,912	767,236	9,093,691	1,016,469	1,429,044	1,600,634	2,870,076	5,790,576	3,303,115	2,416,721
Southern Railway	6,572	58,839,508	6,539,549	71,340,949	8,926,096	12,167,728	1,407,970	24,840,783	50,182,817	21,158,132	13,292,189
Alabama Great Southern	315	622,438	53,623	720,689	86,016	146,223	14,075	179,130	448,710	271,979	176,547
Alabama Great Southern	315	4,791,451	424,829	5,582,850	771,109	1,132,311	117,537	1,625,710	3,854,828	1,122,061	1,242,786
(Cincinnati, New Orleans & Texas Pacific	337	1,299,104	76,731	1,470,010	180,499	293,522	30,573	334,238	890,051	579,959	379,945
Alabama Great Southern	337	11,368,506	817,823	12,942,826	1,610,934	2,465,325	262,622	3,282,926	8,091,334	4,851,492	3,554,921
Georgia Southern & Florida	398	127,671	23,988	181,329	31,355	36,066	1,763	75,658	150,048	31,281	11,958
Georgia Southern & Florida	398	1,170,982	356,927	1,714,791	288,980	327,710	15,817	740,016	1,434,730	134,266	43,165
New Orleans & Northeastern	204	253,245	19,488	289,332	33,855	30,448	5,723	77,464	159,160	130,172	95,309
New Orleans & Northeastern	204	1,943,606	148,400	2,251,236	292,806	312,246	50,630	665,406	1,426,615	824,621	535,755
Northern Alabama	100	47,184	863	49,805	12,827	1,243	885	16,294	33,137	16,668	2,665
Northern Alabama	100	428,140	8,729	452,522	104,077	1,430	8,837	146,431	286,890	165,632	37,118
Southern Pacific	8,658	12,949,914	2,004,867	16,356,487	1,278,164	2,450,065	335,312	5,615,953	10,590,606	5,760,881	3,694,795
Southern Pacific	8,657	93,412,345	17,206,854	121,670,726	11,821,681	21,383,126	3,297,690	44,776,878	88,792,512	32,878,214	15,420,520
Southern Pacific Steamship Lines	.....	613,541	34,234	680,878	13,576	117,017	21,157	435,247	601,652	79,226	59,521
Southern Pacific	.....	332,083	332,391	5,423,672	128,404	955,165	166,611	3,650,280	5,039,287	384,585	232,921
Texas & New Orleans	4,416	3,294,506	297,985	3,913,807	506,576	613,688	118,945	1,240,545	2,678,219	1,237,588	938,011
Texas & New Orleans	4,416	26,233,574	2,564,042	31,444,159	4,749,330	5,366,705	1,115,062	10,824,465	23,906,079	7,543,080	4,857,506
Spokane, Portland & Seattle	948	770,516	44,606	873,707	111,110	85,028	10,695	287,604	521,852	351,855	218,725
Spokane, Portland & Seattle	948	5,588,637	355,825	6,438,639	1,253,118	819,018	94,123	2,405,982	4,726,628	1,712,211	1,056,919
Tennessee Central	286	224,752	4,419	242,487	37,721	30,288	6,747	74,939	155,537	82,950	70,905
Tennessee Central	286	1,610,445	37,128	1,752,991	317,237	268,427	57,804	623,330	1,355,592	399,399	138,634
Texas & Pacific	1,936	1,972,675	200,694	2,363,914	237,578	437,829	73,818	717,537	1,590,045	773,537	501,988
Texas & Pacific	1,936	15,838,625	1,676,222	19,100,854	2,185,637	3,740,874	643,936	6,218,530	13,839,303	5,261,551	3,895,347
Texas Mexican	162	54,064	400	54,864	6,533	6,608	2,810	11,320	52,555	11,207	7,426
Texas Mexican	162	581,723	3,812	695,110	98,186	89,904	26,669	292,970	557,311	137,799	84,929
Toledo, Peoria & Western	239	215,819	6	219,013	53,435	12,037	15,881	45,252	136,484	82,529	14,582
Toledo, Peoria & Western	239	1,588,022	88	1,611,954	355,214	124,358	144,548	377,738	1,093,920	518,034	352,607
Union Pacific System	9,900	14,365,960	1,805,190	17,450,320	2,335,084	2,792,179	370,721	5,217,370	11,522,509	5,922,811	4,560,781
Union Pacific System	9,901	94,612,631	13,721,842	118,693,478	14,158,016	22,552,165	3,854,211	40,617,925	88,106,124	30,589,354	18,751,925
Utah	111	88,278	.....	88,600	12,400	28,475	426	21,868	67,114	21,481	8,933
Utah	111	496,047	.....	496,047	96,855	184,383	4,251	138,025	448,144	49,680	22,278
Virginian	638	2,064,164	2,827	2,111,339	186,076	279,470	24,783	265,669	889,170	1,222,169	922,169
Virginian	638	14,852,525	25,028	15,227,633	1,416,223	3,229,307	210,245	2,190,301	7,335,300	7,892,333	5,712,333
Wabash	2,409	3,439,506	192,705	3,921,147	543,279	656,194	146,788	1,417,376	2,917,384	1,003,763	781,856
Wabash	2,410	27,814,597	1,778,418	31,858,219	4,352,183	5,486,891	1,313,845	12,735,869	25,293,446	79,744	4,590,300
Ann Arbor	294	371,120	2,469	351,316	25,833	28,242	12,607	1,879,379	263,980	6,564,773	1,329,917
Ann Arbor	294	2,711,791	25,633	2,850,477	257,907	589,744	117,535	1,285,360	2,359,741	490,736	296,759
Western Maryland	860	1,548,223	6,426	1,591,838	289,096	289,096	37,641	376,451	949,260	642,576	522,576
Western Maryland	873	10,772,801	63,353	11,152,884	1,305,318	2,418,095	351,123	3,177,424	7,628,660	3,523,424	2,832,732
Western Pacific	1,208	1,716,469	65,007	1,816,125	204,590	233,766	60,693	3,589,443	1,153,118	3,666,007	528,723
Western Pacific	1,208	10,963,728	515,472	11,710,066	1,923,832	2,197,161	549,734	4,540,478	9,740,217	1,969,849	1,208,018
Wheeling & Lake Erie	508	1,491,364	1,577,452	3,068,816	166,625	265,818	34,917	440,794	936,350	641,102	467,823
Wheeling & Lake Erie	508	9,709,882	33	10,205,752	1,193,889	2,109,205	316,746	3,155,319	3,762,746	3,166,625	2,571,623
Wheeling & Lake Erie	508	9,709,882	33	10,205,752	1,193,889	2,109,205	316,746	3,155,319	3,762,746	3,166,625	2,571,623
Wheeling & Lake Erie	508	9,709,882	33	10,205,752	1,193,889	2,109,205	316,746	3,155,319	3,762,746	3,166,625	2,571,623